SUPPLEMENT.

The Mining Journal,

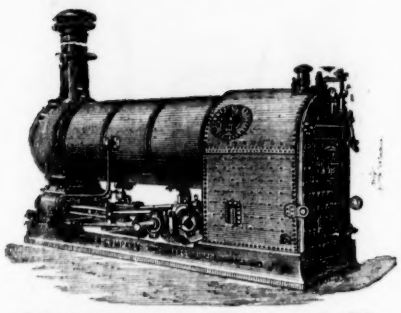
RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.*]

No. 2371.—VOL. LI. LONDON, SATURDAY, JANUARY 29, 1881. PRICE (WITH THE JOURNAL) SIXPENCE. PER ANNUM, BY POST, £1 4s.

ROBEY & CO., ENGINEERS, LINCOLN.



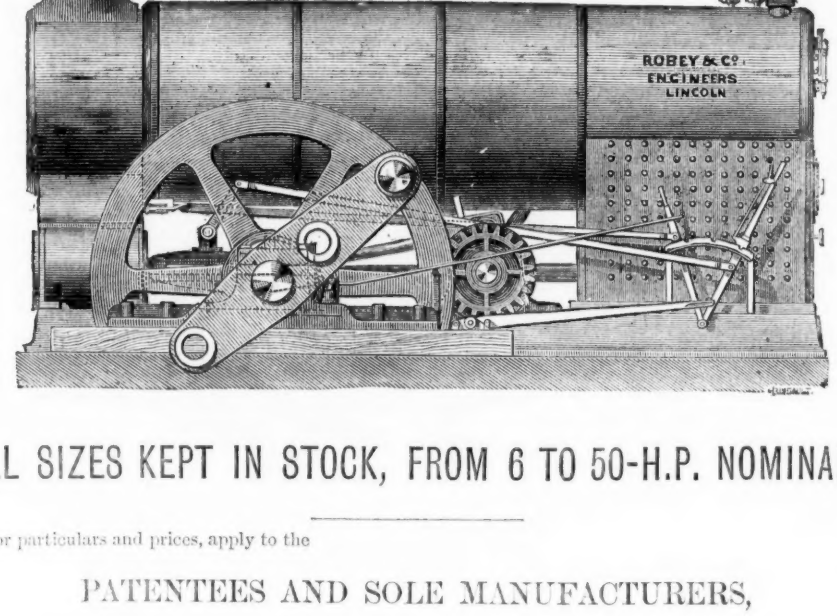
THE PATENT ROBEY FIXED ENGINE AND LOCOMOTIVE BOILER COMBINED
4 to 50-horse power.

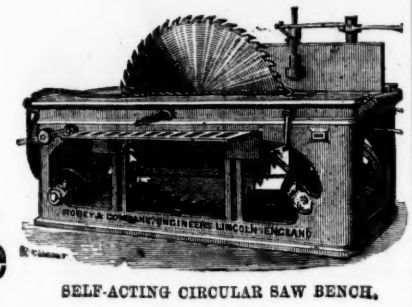
NOTICE.

TO COLLIERY PROPRIETORS, MINE OWNERS, &c.

The Patent "Robey" Mining Engine

Is complete in itself, ready for putting down and setting to work immediately, either as a permanent or temporary Winding or Pumping Engine.



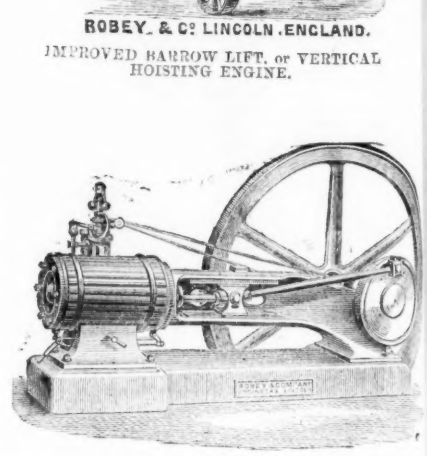


SELF-ACTING CIRCULAR SAW BENCH.

VERTICAL STATIONARY STEAM ENGINE AND PATENT BOILER COMBINED.
1½ to 16 horse power.

ROBEY & Cº LINCOLN. ENGLAND.
IMPROVED BARROW LIFT, or VERTICAL HOISTING ENGINE.

SUPERIOR PORTABLE ENGINES,
4 to 50-horse power.



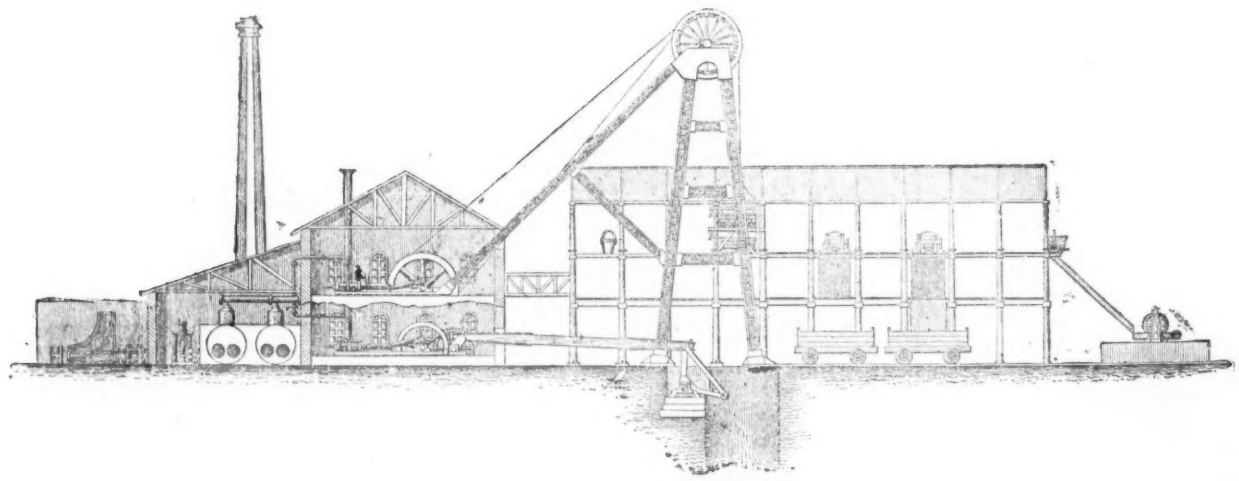
HORIZONTAL FIXED ENGINES,
4 to 60-horse power.

ALL SIZES KEPT IN STOCK, FROM 6 TO 50-H.P. NOMINAL.

For particulars and prices, apply to the

PATENTEES AND SOLE MANUFACTURERS,

ROBEY & CO., ENGINEERS, LINCOLN.



YEADON AND CO., LEEDS, ENGLAND,

Engineers and Contractors for every description of Plant for Collieries, Mines, and Brickworks.

COLLIERIES.

WINDING, HAULING, AND PUMPING ENGINES; AIR COMPRESSORS; DIRECT-ACTING STEAM PUMPS; VENTILATING FANS; SEMI-PORTABLE BOILERS AND ENGINES COMBINED; PIT-HEAD PULLEYS; WIRE ROPES; WROUGHT-IRON HEAD GEAR, CAGES, and SCREENS; BOILERS; PATENT DETACHING HOOKS; COAL WASHING MACHINES; STEAM HAMMERS; STEAM CAPSTANS; PUMPS; VALVES. PATENT BRIQUETTE MACHINES (for Compressed Fuel).

MINES.

CORNISH CRUSHERS and STAMPING MILLS; WATER WHEELS; REVOLVING and OTHER SCREENS; BLAKE'S ORE CRUSHERS; JIGGERS; BUDDLES; ORE-WASHING MACHINES; GRINDING and AMALGAMATING PANS; WELL-BORING MACHINERY; WIRE TRAMWAYS.

BRICKWORKS.

PATENT BRICK MACHINES for DRY, SEMI-DRY, and PLASTIC CLAY; WET and PERFORATED CLAY GRINDING PANS; CLAY ROLLS; PUG MILLS; MORTAR MILLS; FRICTION HOISTS; PIPE-MAKING MACHINES; BRICK PRESSES; PATENT KILNS.

PLANS, SPECIFICATIONS, AND ESTIMATES FOR COMPLETE PLANTS ON APPLICATION.

BEST DESIGNS, WORKMANSHIP, and MATERIAL THROUGHOUT.

N.B. Experienced workmen sent out, if required, to Erect or Manage. Considerable Saving in Prices by dealing direct with us, having for many years been chiefly engaged in the manufacture of Colliery, Mining, and Brickmaking Plants.

Original Correspondence.

EMPLOYERS' LIABILITY ACT.

SIR,—In the Journal of Oct. 23 attention was directed to this Act, a *resume* of its provision was given, and the various methods by which employers might endeavour to protect themselves from consequences which in mining might in some cases be utterly ruinous were considered. Of these schemes of protection the one proposed by Mr. William Pickard, the miners' agent, by which the employers were to pay a certain subscription to the Miners' Permanent Relief Society in South Lancashire, and the miners were to contract with their employers to look to such society for compensation in all cases of injury, certainly promised to be a very satisfactory solution of a very difficult problem. And the benefits to the workmen under this arrangement were immensely greater than any possible compensation which they can recover under the Act in any case however arising; while on the employers' side there would have been freedom from harrasing actions at law, and amicable relations maintained with their workmen—considerations sufficient to compensate the employers for the larger subscriptions they would have had to pay under this arrangement than they are likely to be called for under the Act. But unfortunately both for men and masters, but more especially for the men, the latter have been influenced by the violent counsels of irresponsible agitators quite unconnected with the district, and the attempt to carry out the arrangement in South Lancashire has resulted in a disastrous strike. And so strong has been the feeling of the men that the masters consented to set aside the proposed arrangement, and allow the men to resume work under the provisions of the Act. It is always painful to see working men led astray from their best interests, but one is inclined to think that it will suit the employers better in a merely monetary sense to abide by the Act.

In the article referred to it was suggested that the best way of meeting the burden imposed by the Act would be for employers to mutually assure each other against damages and costs to which they may be subjected, in a similar way to that adopted by shipowners to cover marine risks. It is gratifying to see that the suggestion has been adopted and carried out in the northern district, a joint-stock company with unlimited liability, having been registered under the Companies Acts, called the North of England Coalowners' Mutual Protection Association, the object being "the mutual insurance by members of the company of themselves against all pecuniary liabilities arising or sought to be established by or on behalf of persons in their service, or their legal personal representatives, or other persons entitled in case of death under the Employers' Liability Act, 1880, or any right of action created thereby in respect of personal injuries suffered by persons in the service of the members, and the doing all such things, and the taking and defending all such proceedings as are incidental or conducive to such object." The Memorandum of Association is signed by some of the largest and most Influential coal-owners of the district. It is proposed in case of any action being commenced against a member under the Act that the directors shall examine into the merits of the case, and if they think fit the company's solicitor shall be instructed to defend the case at the cost of the company. The funds for providing management expenses are to be raised by entrance fees and calls *pro rata*, and those for payment of losses by calls *pro rata*, the basis fixed upon being the amount of smart money paid by the respective members (in the year previous to their becoming membersit ¦ presumed). This basis is one peculiar to the Northern district, but in any other district it would not be difficult to arrive at a basis of assessment which would be fairly satisfactory—for instance, the number of men employed or the number of tons raised.

I am strongly of opinion that in carrying out our suggestions in so thoroughly practical a manner the Northern employers have chosen what will prove the most satisfactory and most permanent settlement of the difficulty created by this very questionable Act, and in each and all of those districts where the workmen raise difficulties about "contracting out of the Act" the employers will be wise if they lose no time in forming associations such as this for mutual protection. Mining is of all things most uncertain; mineowners more than any class of employers are at the mercy of the carelessness, or thoughtlessness, or forgetfulness of their servants, and no mineowner knows how or when he may have an accident at his works, the consequences of which he cannot estimate. Forewarned, let everyone be forearmed. H. B.

Elm Park, Liverpool, Jan. 26.

COAL-CUTTING MACHINES.

SIR,—Machines for cutting coal have been made in various forms and on different principles; not one of these has been sufficiently appreciated as yet, or is likely to come into general use, until the prospects of the coal trade look brighter. Their adoption involves the erection of suitable steam-engines, boilers, air-compressors, and buildings, as well as laying pipes for the conveyance of the air, and the cost of such erections may have delayed the adoption of the system. Getting coal by machinery is a modern invention, one of the earliest forms being that of Firth's pick machine, imitating the action of hand labour. Another form was Donnisthorpe's, working on the principle of slotting the coal in the undercut at each forward stroke. The motive power for this machine was usually water, which was often objectionable. The Gartsherrie machine has been extensively used at Messrs. Baird's, in Scotland, and was tried at Hetton Colliery for some time. Its principal feature is an endless chain, which carries the picks or chisels by which about 3 ins. in height of the coal is ground away at the bottom so as to uudermine the upper portion of the seam. Most of the modern machines are constructed with a revolving cutter-wheel carrying chisels on the periphery; such are the machines of Rigg and Meiklejon, Hurd, Gillett and Copley, Winstanley and Barker, and others; but there is a difference in detail in each which may give one an advantage in certain situations,

Five of Rigg and Meiklejon's machines are in operation in Scotland and one in Yorkshire; the latter undercuts in strong underclay, so that an important advantage is gained in the increased percentage of large coal as compared with hand labour. The latter could only be done in the bottom of the coal. Even if the machine undercuts in the coal it would give a decidedly better result in production of large coal than hand labour does. It has two air cylinders, connecting rod crank shaft, and bevil wheel, which gears into the cutting wheel. The latter carries several cutters of peculiar form on its periphery, working on a fixed arm or jib attached to the frame of the machine. The arm being fixed simplifies the construction and secures greater steadiness, though it does not admit of its cutting a way into the coal. There are four adjusting screws, one resting on each axle box; by these the machine and cutter wheel can be placed at different angles to suit the direction of the dip of coal. A worm wheel with three shafts and two wheels and chain gives a self-acting progressive motion along the face according to the rate of work performed. The kirving is made in the bottom of the coal upon the underclay. The height of the machine is about 16 in., so that it is adapted to the lowest seams, and an undercut of 3 ft. in breadth or more may be made of not more than 3 in. in height. The saving in producing so much large coal and the minimum of small coal is of the greatest importance, and one of the prominent advantages to be derived from this system. This cutter has been in operation over three years at Penston Colliery, near Haddington, working with 35 lbs. of air-pressure, the machine being supplied with compressed air from two compressors of 16 in. diameter each, 3 ft. stroke; the coal being worked on the long-wall system, with a face of about 200 yards in length. Three men and one boy are employed with the machine in holing during the night in shifts of nine hours each, the filling of the coal being performed on the following day. The seam varies from 22 to 30 in. in thickness. In ten days the average work per shift was 146 yards, or 16¼ yards per hour; kirving, 3 ft. 2 in. wide, and 3 in. height.

A trial of its performance was made in February, 1879, and in 6 hours 35 minutes 129½ yards of face was undercut, the machine working for 3 hours 29 minutes, and stopping 3 hours 6 minutes; this would give about 19¼ yards per hour, including stoppages, and 37 yards per hour when in actual work. In some cases 150 or 170 yards have been undercut during the shift of 6½ to 8 hours. The cost of labour and interest on capital may be taken at 8d. per ton, and filling, &c., 11d., equal to 19d. per ton. By this method about 12 parts in 20 of large coal is got; by hand labour only about 9 in 20 where the seam was highest, where the cutter was at work, being the least height not more than 7 in 20 would probably be obtained. The cost of the machinery to drive one cutter, including boiler, engine, compressor, receiver, steam-pipes, air-pipes, and buildings may be stated at 1520*l*. This plant is nearly sufficient to drive two machines, though at the time only one was in operation. The annual charges, including interest, depreciation, repairs, labour, and fuel are estimated at 800*l*. for one machine. In a year of 240 working days 38,400 yards of face were undercut in this mine, averaging from 22 to 28 in. in height of coal of a hard quality; this gives an average of 160 yards per shift.

The great utility of coal-cutting machines results from the larger percentage of merchantable coal produced. Experience shows that a large portion of the time is taken up by stoppages. In the above trial about one-half was thus spent, and in many cases it is more; it is manifest that coal cutters require to be made more reliable, and to be worked on a better method than hitherto, though there are no doubt many difficulties to encounter, especially in thin seams like that at Penston. If these machines could be made to operate continuously in the shift of 8 hours the amount of work performed would be twice or thrice that, which in practice results from their use. If a machine can be got to work continuously six hours in a shift of 8 hours at 40 yards per hour, 240 yards would be undercut. Supposing the seam to average 26 in. high, the produce of coal per shift would be about 173 tons, whereas, in fact, not more than 100 tons per shift has been got at the Penston Colliery M. E.

COLLIERY EXPLOSIONS—SOURCE OF FIRE-DAMP.

SIR,—My assertion that carburetted hydrogen has been visible in a coal mine has gained support during the week. One has observed about a "blower," a mist, another a fog, another dust like that seen in a beam of sun-light coming through a hole, while another has seen water running from a blow-hole whenever gas came from it; but when there was no gas then there was no water.

It may probably take some little time before those most concerned in my discovery will realise the fact that what they saw was carburetted hydrogen as a vapour and as a liquid. I have also received information which leads me to believe it has been seen as a solid, but the explanation made to me requires confirmation. Perhaps those who wish to grasp the question quickly will see their way at once on reflection that steam, vapour, liquid, ice are the four forms of water in every day life, and that all gases follow similar laws of nature—gas, vapour, liquid, solid.

As I have now pointed out what to look for in reference to a "blower," I trust some observant about collieries will kindly write to me, stating any unusual appearance as to mist, fog, or the like; also I shall be exceedingly indebted to those who will confer on me the favour of ascertaining the temperature about a "blower" at the orifice, and writing to me as to it. My readers will be amused at one letter I have received; the writer says that much as he would like to oblige me by testing the temperature of a "blower," the coal trade about him is so very bad that he cannot find time to do so.

Westminster, Jan. 26. J. D. SHAKESPEAR.

WEST MOSTYN COAL AND IRON COMPANY (LIMITED).

SIR,—Allow me to ask, through the medium of your valuable Journal, how it is that no balance-sheet of this company has been issued for several years, and no meeting of shareholders held? Is is not a fact, Sir, that the directors and secretary render themselves personally liable for heavy penalties for not conforming to the very plain provisions of the Companies' Act?

I contend that it is injudicious, unfair, and immoral thus to keep the shareholders out of a knowledge of the circumstances in which the company is placed. If the company is in difficulties let us know it, and if we can see our way clear we may be disposed to give the assistance required. The amount paid for the colliery by the company was 75,000*l*., and a working capital of 75,000*l*. was subscribed. Surely the expenditure of this amount ought to produce some results. I want to know what has been done with this money. I am strongly of opinion that the 12 per cent. guaranteed interest was paid out of capital, and not as the prospectus stated by the vendor. In the interest of all concerned these matters should at once be cleared up for without confidence in the management no good can result to the shareholders. ORIGINAL SHAREHOLDER.

ATMOSPHERIC GAS.

SIR,—There are so many places where a supply of gas from a public gasworks is absolutely unattainable that the production of illuminating gas on a small scale by what is generally termed the carburation of atmospheric air has long been acknowledged as a desideratum, and now mineral oils are so cheap it is not unnaturally thought that for country houses and the like it should no longer be necessary to depend upon oil lamps or candles. Heretofore, however, in the apparatus used the degree of saturation of atmospheric air with hydrocarbon gas has been determined by the position of a cock according to the number of burners, but this gives not a satis factory result; when employing a scoop elevator the gas is at first too intense—about right in the middle, and too weak towards the end of the process. It would, therefore, be useful to regulate the hydrocarbon percentage in the gas mixture, but this is difficult, because the liquids used differ considerably in their degree of fluidity. A suggestion for getting rid of these difficulties has been made by Messrs. Richter and Triebel, of Berlin, and as the arrangement is not patented many may find it worth their while to give it a trial. The desired object is attained by the production of a partial vacuum within the mixing vessel, so that the evaporation of gas liquid is always regulated accordingly. The vacuum is produced by two air pumps or fans, of which one delivers the required quantity of air into the apparatus, while the other draws off the more, the more hydrocarbon is evaporated.

The mixing vessel is connected to a blowing fan of any suitable construction, which by a given number of revolutions of its shaft delivers a certain quantity of air into the mixing vessel. The interior of the latter is also connected to a suction fan, which draws off the mixture, and delivers it into a gas reservoir. The relative motion or action of the two fans is regulated as described, and the driving mechanisms of same may be so combined that the suction fan always draws off a defined greater quantity of gas than the blowing fan delivers air. The difference is made up by the evaporation of the light hydrocarbon, so that consequently the gas mixture always has a certain percentage of lighting gas. But the liquid hydrocarbons used are not all of the same lightness, and hence an irregularity in the illumination might arise. For this reason the interior of the mixing vessel is provided with a suitable regulating appliance, the essential feature of which appears to be that it is constantly elevating the hydrocarbon, so that it is continuously exposed to the action of the atmospheric air.—*Manchester, Jan.* 24. OELGAZ.

PRACTICAL MINING—TREATMENT OF ORE.

SIR,—Can any reader of your valuable Journal inform me how copper ore of 4 per cent., existing in friable arenaceous limestone, and impregnating the whole mass in the state of carbonates, with a little oxides and sulphides, can be profitably extracted under the following circumstances? The ore will cost for mining and cleaning from 8s. to 10s. per ton. Coke would cost about 3*l*. 10s. per ton put on the mines. The hanging wall of the strata being hard, scarcely any timber will be required in fortification. An adit level will lay open a great length of backs, from which an immense quantity of ore may be extracted. Scarcely any water being present no pumping machinery will be reqired for some time. No system of dressing can increase the percentage of the ore. The stratum, which underlies at an angle of about 45°, occurs at the junction of a metamorphic limestone and clay-slate formation. Average width of stratum, 1 metre; of ore-bearing portion, 6 in. A cargo of this ore was sent to England, but left scarcely any profit. A dilute solution of ammonia dissolves nearly the whole of the copper in this ore in a few hours. In the Province of Almeria, Spain, this stratum exists. MINERO.

Spain, Jan. 15.

MINING ENTERPRISE IN UTAH.

SIR,—Having recently paid a professional visit to the Tintic and American Fork district, I have pleasure in forwarding you short reports upon them, which will, no doubt, be interesting to the readers of the *Mining Journal*. The American Fork district is situate in Utah County, Utah Territory, on the western slope of the great Wasatch Mountain range, and has little Cottonwood on the north, Snake Creek on the east, and Silver Lake, or Deer Creek, on the west side of it. Its characteristic geological formations are the dolomite, schist, and quartzite of the Lower Silurian and Devonian periods. The same overlie the granite of the Cottonwoods on the eastern flank of the great granite ridge of the Cottonwoods. The Silurian and Devonian limestones overlie the quartzite, from which they are separated by a thin bed of schist, 10 to 40 ft. in thickness. These limestones appear in beds, and assume the most grotesque forms—ridges and spires—and represent a mass from 1000 to 2000 feet in thickness. In the ravines of American Fork are met everywhere immense boulders of both rock and ore, torn from their virginal bedding by the power and action of the ancient glaciers.

Coming across the divide from Cottonwood, we observe a fracture in the rock of great extent. On the east side the schists to a thickness of from 1000 to 3000 ft. are predominant; on the west side the younger sandstones predominate. This line of fault can be distinctly traced all along from the divide down the canyon to the within the vicinity of Forest City, a distance of about five miles, crossing two divides or mountain ranges. The country on either side of this fault is traversed by numerous fissure and strata veins, which are in turn interrupted and broken through by several extensive porphyry dykes. A great number of these deposits have been opened to a more or less extent, but in not one case beyond a depth of 300 ft., although in the strike some mines have drifted more than 1000 ft. and on the Utah Consolidated and Silver Bell property the vein is exposed through various developments over 2000 ft. in length. The reason for the fact that these deposits have not been opened beyond a certain depth is to be found in the extensive dislocations which have found place here through the powerful subterranean forces, and which seem to be entirely foreign to most of the miners of this district. There are two main lines of disturbance in this district, one break running north-west and south-east, carrying the western portion of the lodes upward, and the other break running north and south diagonally to the first break, throwing the dislocated parts downward.

It is very suggestive to connect the dislocations of American Fork with the disturbances which found place during the time of the great upheaval, which are so plainly illustrated in the Cottonwoods and Snake Creek. Here are fine beds of limestone and schist upon the granite, dipping at an angle of from 30° to 40° east, a long distance off from the place from which they were evidently originally torn, which fact demonstrates the idea of the granite underlying in American Fork the sedimentary rocks. The ores of American Fork mining district are—free gold, bromide and chloride of silver, carbonate of lead, galena, grey coprer, copper glanc, and azurites. The details of the various mines would be of local interest only, but I may mention that the principal mines are the Miller Mine property, the Sunday Mine, Hidden Treasure, Utah Consolidated, Excelsior, Bullion, Silver Bell, Bellerophon, Mary Ellen, Mayflower and Flora Austin, Silver Cloud, Fairview, Grand View and Cariboo, Hudson, Pittsburg, Little Cloud, Wild Dutchman, Lady Catherina and Rudolph, Sierra, Lost Maid, Gold Seeker, Wee Pet, and Orphan and Annie, and besides these there are hundreds of valuable mines and properties in the district worked steadily by the hardy miner, but it would take too much space to mention all of them. The Miller Company owns in Forest City a smelter, with two shaft and one roasting furnace, attached to which are over 20 charcoal kilns in Forest City and Deer Creek. The Recorder of American Fork (Major Frank Birk) and his amiable lady keep a good hotel and a brewery, which turns out A No. 1 beer to refresh both miner and traveller after their toils. There are five sawmills in the canyon, cuting up the giants of our Western Switzerland without mercy or sense.

The Tintic Mining District is situated in Juab county, and comprises 120 miles (square) of mineral bearing ground, on the eastern slope of the Oquirrh mountain range. The mines are situated abou- 95 miles south of Salt Lake city, and about 26 miles from the Utah Southern Railroad. The formation of the Oquirrh mountains belongs to the primary rocks of the eozoic and paleozoic era, in which the lower series are crystaline and more or less metamorphic. The largest area of the mineral bearing zone, or belt, in this district is represented by hornblende, syenitic, granitic, and felspar porphyry, broken through and overlying the granite. This is especially the case in the southern part of the district. In the north-west part the formation is limestone, and on the west base of the mountain ranges appear shales and quartzites. The immense masses of eruptive rocks have changed and altered the original features of the country, which belongs to the Silurian age to a great extent. The ore veins in the porphyry and granite bear principally north-east and south-west, and dip very near vertical; these are the true fissure veins. The porphyry is also interseted by numerous fissures running like a network in various directions, and dipping at all angles between 40° and vertical; these are fissures and feeders, or branches, of the main or mother lodes. The veins which occur in the limestone and quartzites are bed or strata veins. The value of the ore in those veins varies from $20 to $300 in silver a trace, to $300 in gold, from a trace to 65 per cent. in lead; and a trace to 36 per cent. in copper; so we have here a variety of free milling, leaching, concentrating, and smelting ores, represented by horn silver, ruby silver, or red silver ore; chlorides and bromides of silver, carbonates, galena, cerusite, azurite, copper glanz, pyrolusite, pyromorphite, oxides of copper, and antimony ores. There is a most peculiar geological phenomenon in the construction of the Tintic lodes. It is this: The contents of the same belong to two geological formations; the oldest or original vein formation consisted in a quartz vein, carrying free gold, antimonial silver, and copper; a subsequent disturbance reopened the fissure, brecciated the quartz, and formed and added a new deposit of minerals. Some portions of one and the same lode are rich in gold and silver, other parts in lead and silver, others in copper, and others are entirely barren. From this it will be observed that samples taken along a vein here are a bad criterion as to the value of the mines located thereon, unless these mines are thoroughly opened and developed, both in strike and dip.

There is another series of veins which I would designate as dyke veins; they form perfect parallels with each other, and are traceable for miles, composed of quartz, carrying iron containing silver and gold, and small or large chimneys of very rich silver ore. The principal mines in this district are the mines on Eureka Hill: Frederick Charles, Iron Queen, Black Stallion, Merimac, Monitor, Lucky Boy, Josephine, La Boute, Corisa, Fairview, Mammoth Mines, Tiger, Argenta, Little Maud, Brazils, King, Cincinnati Mines, Celestia, Swansea, Black Dragon, North Star, Galena Hill Mines, Lucky, Whistler, Champlain Park, Chicago, Sidney, King James, Wild Mormon, Jane Rose, Lady Aspinwall, Nelly Bly, Lady Grey, Golden Bell, Gold Hill Mines, Undine, Blucher, Pacific, Sunbeam, Mary Bell, Wildwood, Cherokee, Sesora, Cornucopia, Senator, Golden Treasure, Bismuth Chief, Scorpion, Julian Lane, Frontenac, Niagara, Shoebridge, Oh No, Norwegian, Lily of the West, Allie Townsend, Georgia, Washington, Morning Glory, Joe Bowers, Star of India, Butcher Boy, Wild Rose, J. D. Cameron, Prince Charles, Mary Cameron, Duke of Athole, Rose of Arthurstone, Hammarskiold, Jeffersen, Lily of Kinloch, Rising Sun, Setting Sun, Southern Belle, Rose of Tintic, Lily of the Valley, and many others.

Quite a number of them are now, and have been for some time, successfully worked by their owners, and Tintic is again attracting the attention of both miners and capitalists. I must not omit here to mention the exorbitant charges made by the Tintic mills on the custom ores brought to them by the toiling miners. Opposition here is sadly needed, and will and must come.

CRISMON MAMMOTH: The present daily yield of ore is about 40 tons, of the average assay value of $50 per ton, gold and silver: 30 men are employed in the mine. Bullion shipments for the past year aggregate approximately $100,000.

GOLDEN KING.—This property, owned by Morris Wilkinson, adjoins the Crismon Mammoth on the west. An incline shaft is being sunk on the vein, and a tunnel driven from the hillside to cut the incline at a depth of about 150 ft. The incline, now down about 40 ft., shows in its face a 10 ft. ledge of good ore. There is at present a dump full of ore that will sample from $50 to $60 per ton. This will shortly be shipped to one of the custom mills for treatment.

The Mammoth lode is situated near the junction of the limestone and granites, on the westerly slope and near the base of the Mammoth Mountain, at an altitude of 7000 feet above the level of the sea. This lode is remarkable for its size, as well as the richness of the ores extracted, consisting chiefly of copper oxides and carbonates, carrying antimonial silver and gold in chemical and mechanical combinations, in fair values, and occurring occasionally in deposits of surpassing richness. The Crismon Mammeth claim was located prior to the enactment of the mining law of 1872, and contains 1700 feet upon the course of the claim. This mine has been worked continuously since its discovery in 1869, and is now owned and worked by the Mammoth Mining Company. A fair valuation would place the present exposed portion of the mine at $15,750,000. If plant and processes are available whereby the ores could be converted into their metallic conditions to a standard of 90 per cent. of their assay value the value of the property would be enhanced in its minimum valuation, according to the classical expert term "ore in sight," to nearly $27,000,000. It must be borne in mind that rich deposits of gold and silver are as likely to be discovered in future operations as they have been in the past. The Mammoth lode is pronounced a true fissure in the Lower Silurian limestone.

The British Tintic is situated immediately south of the Mammoth claim, and presents all the geological features of being a prolongation of the Mammoth lode. It was located in 1871, and purchased by the Mammoth Copperopolis Mining Company of London, who transferred it about two years ago to its present owners. The ore vein is about 40 ft. in width, and has been opened by shafts, levels, &c., to an aggregate extent of 3000 feet. The ores extracted are copper carbonates and oxides, carrying antimonial silver and gold. During the year 1879 there was shipped to the Ely mill 175 tons of copper-silver ore carrying 15 to 25 ozs. silver and 10 to 20 per cent. copper per ton, and 125 tons of milling ore carrying $60 in gold and silver per ton. This property contains 1000 feet, and is owned by the British Tintic Mining Company, of which Lord Claud Hamilton, M.P. for Liverpool, is president; the Hon. J. B. Rosborough, of Salt Lake City, is resident manager; and Capt. John Bastian, of Tintic, mine superintendent. Southerly from this property are several locations supposed to be continuations of the same. One known as the Celestia, owned by Joseph Hyde, is reported a promising claim. There are also several locations northerly, which are spoken of favourably.

Of further news there is but little; indeed, my letter has now reached an unweildy length, but I may say, in conclusion, that the Old Telegraph is worked under a lease with 20 men, and is doing very well, having struck a considerable body of good ore lately. Flagstaff fifth level is 1700 feet long. At the end of this level is a vertical air shaft in connection with the Eclipse Mine; the shaft is 400 feet deep. WILLIAM BREDEMEYER, M.E.

Salt Lake City.

THE CAPE COPPER MINING COMPANY.

SIR,—I believe that your various correspondents are not at all too sanguine about the future that is in store for this company, which combines with its operations of mining the large profits accruing to a smelting company. From no where else but from the Cape does Swansea get ores ranging from 28 to 40 per cent., and of a nature that can be refined down without any admixture of other ores.

I have before me last year's figures, and I find that the company carried over from last year's profits ..... £ 25,455
The ores raised in 1880 have fetched, so far, much the same price as in 1879 (say) net 89,222
But the output has been one-fourth more, or equal to 22,600

There, therefore, remain for distribution (say) £137,277
Out of which a dividend was paid in June £20,000
" " September. 20,000
" " December.. 20,000 = £ 60,000

Leaving ..... £ 77,277

To meet the April dividend, 20,000*l.*, with 57,277*l.* to the good.

I think this to be a very moderate forecast of the accounts for the current year, and I look forward to a 25s. dividend in April, and the same in June next, with 27,000*l.* to reserves and sinking fund, as last year—20,000*l.* over; surely a magnificent result, especially when it is considered that it is arrived at with copper at very little over 60*l.* per ton. W. W.

THE CAPE COPPER COMPANY.

SIR,—The regularity of the return from this property must have struck all those who may have watched its career. The whole concern seems to work like clockwork. In 1878 the directors determined to raise 12,000 tons; they were raised. In 1879 they resolved to raise 16,000 tons; they have been raised. This year they may determine to raise 18,000 or 20,000 tons; they will be raised.

The working seems more like that of a coal pit or quarry than that of a mine. This is what recommends itself to serious investors. No shareholder has to fear the "sensation telegram" cutting down the value of his property one day by one-half, and raising it by as much the next. It is the "Consols" of the mining market, and pays its dividends as regularly, only at the rate of 10 per cent. instead of 3 per cent.

The shareholder can be at his ease with such a holding. He does not sleep on a volcano. The original shareholder is a most enviable mortal, getting as he does over 60 per cent. on his outlay, but even now 10 per cent. is quite good enough. W. B.

London, Jan. 27.

SENTEIN MINING COMPANY.

SIR, I should like, through the *Mining Journal*, to ask the maker of our new dressing machinery a few questions.—1. Was not the total amount of ore which it was stated this new machinery could dress each month upwards of 800 tons?—2. Why was the old machinery superseded, and why is no use made of it? It appears from the report of the board for last January that its then dressing capacity was about 300 tons per month. There is ample space at the dressing floors for both old and new machinery. The two together could (according to the above figures) have dressed 1100 tons in each month. As it is, we only gain the difference between the amount which the old machinery could dress and that which the new can dress. In other words, the extra dressing capacity due to the new machinery may be said to be whatever ore is dressed above 300 tons each month, and possibly the ore may be dressed to a rather higher percentage. Our largest returns, as I gather from the ore sales in the *Mining Journal*, were, I think, made last month, but they only amount to about 600 tons.

There is no doubt about the existence of very large quantities of ore at the mine and on the floors. But the doubt is whether this costly machinery can deal with all the ore which can be brought to it. Between June and November, 1879, the old machinery dressed ore to the extent of some 1200 tons. It is inexplicable to me why it has not been used together with the new. It is, I fear, to plain for doubt that this neglect has lessened our profits for the year by about 10 per cent. Further, the delay in the erection of the new machinery so long postponing our increased new returns has, I believe, taken another 10 per cent. per annum off the profits, and the extra expenses caused have eaten up a good deal of our capital. I would likewise ask—3. Why has each separate part of this new machinery required such extraordinary delay before it could be ready?—4. Can this machinery, now all completed, as I gather from your columns, at the huge price of 7000*l.*, now make the returns promised? As a shareholder, some of my capital has gone towards providing the machinery, which has cost much more than was anticipated. I am, therefore, very anxious to hear from the maker of it whether we have got the thing we were to have had. DISSATISFIED HOLDER.

Lincoln's Inn, Jan. 24.

INDIAN GOLD MINING.

SIR,—In the report of one of the Indian gold mining company's meetings recently published the Chairman, it is stated, compared the prices paid for their land with those paid by other companies. He thus brought into a strong light the rate at which he and others had secured land for his company; but left out altogether all reference to the value of land, and the presence of auriferous reefs therein. As well might he have compared the value of forest or other land in England (say) at 10*l.* per acre with land in the City at as many thousands. He mixed up, moreover, the value of the reefs and mines of one district with those of another, although in the one every acre of ground taken up is known, and each reef long since tested and prospected, whilst the value of the other is not well known.

The Colar Mysore companies are in a wholly different district, and as regards health, labour, and transit are in a totally different position. A railway station is within four to six miles of the different companies, while level roads already exist to the mines. As with the statements made and comparisons drawn it is inferred (if not distinctly stated) that all the companies named by the speaker are in the Wynaad district it cannot be too clearly understood that the Colar Company, the Mysore Company, the Mysore Reefs Company, the Nundydroog Company, the Great Southern Mysore Company, the Ooregum Company, and the Madras Company are in Mysore—one and all having portions of the same reefs.

Cockspur-street, Jan. 24. A. HAY ANDERSON.

QUICKSILVER IMPORTATIONS, 1880.

SIR,—In the present somewhat quiescent state of the metal markets, which in quicksilver verges on torpescence, a synopsis of last year's imports in this article, classified monthly, with totals for each half-year, may possibly be of interest and utility to many of your readers, the more especially as being culled from our great commercial barometer for all fluctuations in value—the Board of Trade Returns—their veracity do not admit of doubt.

When compared with the weekly quotations in the past year's Journal the gradations possess great interest, affording a clue as to the control of a rising or falling market, and "latest indications" for commercial changes.—*South Croydon.* STATIST.

	Lbs.		Lbs.
January	501,937	July	37,807
February	1,228,395	August	66,835
March	1,308,713	September	104,936
April	58,336	October	158,330
May	45,875	November	81,000
June	162,985	December	22,500
First half-year...	3,306,241	Second half-year..	471,408

THE LEAD TRADE.

SIR,—The lead market has been very quiet, and very large lots of soft pig-lead offering, and to effect sales lower prices have to be taken. Spanish silver-lead is in good demand, and higher prices are asked and paid, and the following sales are reported:—200 tons rich Spanish at 15*l.* 7s. 6d.; 200 tons rich Spanish at 15*l.* 7s. 6d., and the market remains rather flat on account of the frozen state of the river, which prevents the export of goods. STOCKS.

Newcastle-on-Tyne, Jan. 27.

DEVON CONSOLS AND KIT HILL DISTRICT.

SIR,—I noticed in a recent issue of your valuable Journal a letter from Mr. R. Symons, of Truro, and I quite agree with him that a good plan of this mining district, which has now again so justly and prominently come into repute, would be most acceptable to the mining interest generally, and I and my friends, who are so largely interested in the various mines, will have pleasure in subscribing for some copies. I would suggest that Mr. Symons advertises in the *Mining Journal*, and issues a few circulars to the mining companies and shareholders he may know in this locality, inviting subscribers, and I believe he will receive the support he so well deserves in the matter.—*Jan. 27.* MOSES BAWDEN.

KIT HILL CONSOLS.

SIR,—The contemplated starting of this mine is hailed with great pleasure throughout the district, reaching from Gunnislake to Callington. The driving of the great adit into the hill for the intersection and opening up of the numerous lodes in this extensive range of mineral ground is the boldest stroke of mining ever yet attempted in the eastern part of the county, and the result can hardly be doubted.

To use a familiar expression of the miners, "The hill is full of lodes," and ample evidence of the existence of tin is afforded by the large returns from comparatively shallow workings on the summit.

The Hingston Down Consols great copper lodes must also pass directly into and through Kit Hill. This, undoubtedly, is as safe an enterprise as can be selected in English mining. A NATIVE.

Jan. 26.

ST. AUSTELL MINING DISTRICT.

SIR,—I met to-day, at Par, a gentleman who suggested to me the desirability of the publication by me of a description of the mines in and near St. Blazey, to supplement those of your Ballycastle correspondent. As there are several valuable mining sites there which should be better known than they are at present, I purpose visiting that part of the St. Austell district next week, to draw up a faithful statement respecting the sites referred to, so that it may appear in next week's Journal.—*Truro, Jan. 25.* R. SYMONS.

MINING IN THE ST. BLAZEY DISTRICT—No. III.

SIR,—When it became known to the people of St. Blazey and the locality of the mines that it had been determined to abandon Scobbles a burst of astonishment, grief, and indignation ran through the population, because it was known by all the expert miners of the locality and business people interested that the lodes again appearing in the bottom, with the change of ground under the quarry strata, began to show incontrovertable signs of a nearly approaching prolificness, with greatly increased quality, in the leaders both of tin and copper that began to show. By a large number it was felt that the abandonment was had recourse to for ulterior considerations, *re* the royalties of the Rogers' property. By others it was felt that Mr. Treffry's advisers had really brought him to the step. It was felt that the men who were advising him at the time were at best perfectly unreliable to be called upon to advise upon anything so momentous, for the most able of the two men in power at the time could lay claim to be considered anything more than a working tin tributer, whilst the other could not not be considered in ability above that of a second-class tntworkman.

Let "Observer" examine the section of ground behind Pulsue's Cottage, both north and south, then take a note of the indurated quarry section, and then inspect the strata from the deepest part of Wheal Maudlin, and "Observer" will see the stratum in which Scobbles' first courses of ore occurred—the stratum which temporarily deranged and cut off Scobbles' ore; and by searching up the stratum that came out of the bottom of Scobbles' shaft, after passing through the quarry section, or studying the rock out of the deeper part of Wheal Maudlin, it will be seen that the deeper more congenial stratum unquestionably becomes lastingly permanent, and will produce and sustain the future mines.

It is a well known fact that there was not a particle of weighty reason for the abandonment, and that but for the death of Captain John Puckey, who had acted as general manager for many years, nothing so absurd and baneful could have happened. The late Capt. Puckey knew this part of the district better than any of his assistent agents, and had he lived Seobbles would have been continued, whether the Treffry Estates could or could not afford to find the required limited outlay for a fresh and deeper start.

It is to be regretted that during his life Capt. Puckey was mostly unfortunate in his appointments of assistant agents. He often passed by men of travel and ripe experience who would have ably succeeded him, and appointed men having no special qualification for such offices; and it is sorely regretable that this sort of practice is so extensively followed both east and west of this district, also throughout the county; and the old saying is, that "where one miner in twenty becomes agent on the ground of special merit 'Aunt Betty,' in her caprice, makes the other nineteen." A MINER.

Jan. 17.

WHEAL COIT AND WHEAL FRIENDLY, NOW SOUTH POLBERRO (ST. AGNES).

SIR,—I was pleased to see in last week's Journal reference made to this mine. I was for 18 years junior and managing clerk in the office of the late Mr. Newton, of St. Agnes, who was steward for the late Mr. J. S. Enys, the proprietor of the Trevaunance Mine referred to, and my father was mineral agent, and in that capacity was manager of Trevaunance Mine. Mr. Newton also, as agent, received a portion of the dues from this sett. I always heard my father say that this sett, as a tin sett, was one of the best. Mr. Newton, in himself, was a good miner, and his brother, Captain Richard Newton, were one in opinion. The question might be asked as to why the mine was not more vigorously worked? The answer is that the late Mr. Henry Borrow, of Truro, and his friends, so long as I remember worked it, skimming the surface, made a profit, and everybody looked upon it as did Mr. Borrow, as a home once a month; and if Mr. Borrow had lived longer I question if any one would have meddled with him, such was the respect and esteem with which Mr. Borrow was held. It would not require a miner to give an opinion of the sett, wholly surrounded as it is by the best tin mines and ground. By the way, New Kitty is a promising adventure, having, as it has, the West Kitty productive and masterly lodes. JOHN GOYNE.

Mount Hawke, Jan. 25.

THE LLANRWST LEAD MINING COMPANY.

SIR,—I have been hoping for some time to see something in the *Mining Journal* about this company. It would be a pity to have such a valuable property as this has been reported to be stopped for want of a few thousand pounds. I take a short abstract from the directors' annual report, dated April 2, 1880: "The mine has been recently reported upon by Capts. R. Southey, R. Goldsworthy, and Mr. G. Barker; they unanimously agree that Llanrwst is a valuable mine, and the latter estimates the value of the reserves of ore at present at 48,000*l.*" We shareholders have not any knowledge of the 48,000*l.* of reserves being taken out; but if the odd 8000*l.* worth has been raised there would still be 40,000*l.* of reserves left, deducting the difference in the price of lead, English pig-lead being worth on April 2 about 25s. more than at present. Now we want to know if such is correct, as we do not doubt that the machinery and dressing-floors are in good order.

I should like to know where these large reserves have so miraculously disappeared to if they are not still in the mine. Mr. W. H. Pannell on Dec. 20, 1880. says "The working of the mine has been carried on since my appointment, and the amount realised by the sale of the lead raised (say 25 tons per month) has just cleared working expenses. That looks well, as many of the best lead mines do not do much more just at the present time. A short time past it was stated in the Journal that many of the best lead mines have been reconstructed from various causes. Now is the time to do the same with Llanrwst on a proper scale, unless the shareholders wish the valuable amonnt of lead to remain at the bottom of the mine for ever rather than pay 10s. per share more to obtain it. N.

Norfolk, Jan. 25.

THE LANGSTONE MANGANESE MINES, TAVISTOCK.

SIR,—I have read with pleasure the prospectus issued for the reworking of this magnificent property. I worked there up to its being stopped by the late company some 30 years since, and remember well seeing the last parcel of manganese raised, which required little or no dressing. In fact they never raised richer or better quality than they did the day they stopped. From my knowledge of the property the reports and estimates given in the prospectus can be fully realised, if not exceeded. This is a property which ought to be worked, and if done so according to the prospectus will in a few months pay handsome profits to the shareholders. I shall apply for some shares myself, knowing as I do the property to be a good one, and would rather have the mineral resources than the freehold surface of the estate, which is a valuable one. JOHN HARVEY.

Gunnislake.

[For remainder of Original Correspondence see this day's Journal.]

FOREIGN MINING AND METALLURGY.

The coal trade presents a generally satisfactory aspect in Belgium, and Belgian coalowners have comparatively little to complain of. Continued cold weather has increased the demand for domestic qualities of coal, while industrial coal is in considerable demand on all hands. In the Liége district the coal trade is, perhaps, not so active as could be desired, but in the Borinage deliveries are being pressed forward as actively as possible. Stocks in the Borinage are almost *nil*, and are certainly not more considerable than they were at the corresponding period of 1880. Deliveries by water have been necessarily interrupted in Belgium, but the production of the collieries has been readily disposed of by railway. Industrial coal has been almost everywhere in demand, and quotations have been excessively firm. Contracts are being currently renewed in Belgium at the same rates as those current last year; if there has been any hesitation it has been rather on the part of sellers, who are disposed to advance their rates. It is not impossible that an advance in rates will be witnessed if affairs continue to show the same tendency as at present. Some rather important contracts are stated to have been concluded for the whole of 1881. The advent of frost has had the effect of improving the demand for household qualities of coal in Germany; industrial coal is also in more demand.

The current aspect of the Belgian iron trade is generally encouraging. Orders have been generally numerous and abundant. One favourable symptom is the absence of those rough and violent fluctuations in prices, which are the effect of speculation alone, and which characterised the rise which was witnessed in quotations at the close of 1879. Business is now moving on more slowly perhaps, but at the same time it may be hoped that it is progressing more steadily. One remarkable feature in the present state of the Belgian iron trade is the fact that the demand which now prevails is almost entirely national, and that the export movement is, comparatively speaking, of no very material account. Iron is quoted in Belgian at 5*l.* to 5*l.* 4s. per ton. Pig has been maintained with firmness in Belgium, and the current rate is 2*l.* 10s. per ton; this, perhaps, is rather an exaggerated price, as English casting pig can be obtained upon similar terms. Plates have participated in the general upward movement, and have advanced about 8s. per ton. Transactions have been concluded currently at 7*l.* 4s. per ton. Messrs. Cohen and Co., of London, have taken 640 tons of old Vignoles rails in Belgium at 3*l.* 8s. 3d. per ton. The Administrarion of the Belgian State Railways has let a contract for 700 tons of steel rails to the Angleur Steelworks Company at 6*l.* 9s. 10d. per ton; and another for 1400 tons to the John Cockerill Company at 6*l.* 10s. per ton.

The situation of the French iron trade continues generally favourable, although the upward movement in prices has, perhaps, been arrested. Merchants who have purchased iron at 6*l.* per ton are disposed to sell it again at present rates, and to realise their profits. General contracts have been concluded at an average of about 7*l.* 16s. per ton. The imports of iron minerals into France in the first 11 months of last year amounted to 1,086,181 tons, of which 297,073 tons came from Algeria, 258,183 tons from Germany, 304,203 tons from Spain, and 122,033 tons from Italy. The imports increased in the first 11 months of last year to the extent of 24 per cent. as compared with the corresponding period of 1879. The imports of pig-iron and steel into France in the first 11 months of 1880 exhibited an increase of nearly 7 per cent., as compared with the corresponding period of 1879. The French Northern and Eastern Mines and Ironwork

Company contemplates the establishment of apparatus for the production of steel. A contract for the construction of a bridge over the Douro has just been let to the house of Eiffel at 48,000*l*. The aspect of the German iron trade is favourable; the demand is increasing, and prices are advancing.

While the revival in the German iron and steel industries appears to be spreading to all branches, the most active is the steel rail manufacture. An order for 25,000 tons has been taken jointly by the Phœnix, Bochum, and Krupp works, and a contract for 9000 tons for Russia has likewise been booked at the last named. Contracts for 20,000 tons for the German railways are expected to be given out this month. It is now said, however, that the orders expected from the United States have not arrived.

REPORT FROM CORNWALL.

Jan. 27.—There is no more important topic for comment this week as connected with the welfare of mining enterprise in the West than the weather. We have had a time of almost arctic severity, which has covered our dressing floors with snow, frozen up our leats and launders, and caused all surface operations to be reduced to a minimum, that in all likelihood will make its effects unpleasantly conspicuous at many a coming account, for even a week's cessation of output where the plant is already heavily or fully taxed is a serious matter at current prices. Now, however, there seems reason to hope that a thaw has set in, and though this brings with it its own peculiar drawbacks, it is most fervently to be hoped that we are not doomed to disappointment. The first effect of the thaw will undoubtedly be a serious one—the increase of the pumping charges at all save a few exceptionally favoured concerns. It is not only that the melting of the ice and snow will set free an enormous quantity of water with notable suddenness, but also that the exceptionally severe frost—almost unprecedented within living memory in this locality—has opened the surface soil and fissured the out-cropping rocks so as to afford the superabundant waters additional means of access to the workings. However, there are few mines of any position that have not a good reserve of pumping power, and up to the present the weather, on the whole, has been of a favourable character. We must make the best of the circumstances as we have them, and it will be something to be able to see dressing operations in full activity again.

The awful calamity at New Cathedral illustrates a class of peril to which Cornish mining is peculiarly exposed, and yet which is rarely manifested, and very rarely indeed upon anything like the scale of the catastrophe which has cast such a gloom over our chief mining district. There are wide areas in the county in which mining has been carried on for so many ages that the whole of the underground may be said to be honeycombed by the workings of the old men and their modern successors down to the depth of many fathoms. Gwennap is notoriously such an area, and it remains yet to be seen what were the workings which caused such an inundation. That they were shallow—or what would now be regarded as such—is clear, and they must be tolerably extensive also, or they would not have risen so high in the new workings. When the bodies are recovered there will, of course, be a full and searching investigation into the causes and conditions of the casualty, but there does not seem any reason to believe that there is any fault in the management, or on the part of the sufferers. Upon that, however, we must wait fuller light. One very practical question, and not at all a pleasant one for the adventurers, is the possible bearing upon the sad business of the Employers' Liability Act. If the company are in any way responsible—though we confess that at present we cannot see how it can be made out—it is a very serious affair.

We are glad to find that it is intended to present Mr. J. H. Collins, F.G.S., with a suitable testimonial ere he leaves Cornwall for his new sphere of labour at Rio Tinto. No man has ever done so much valuable unremunerated labour for the special interests of the county, beyond the limits of his valuable services in the various public positions he has filled; and now is the time to make him some return, and so give him some tangible evidence of the high appreciation in which he is held by all classes of the community, and specially by those who have had the most intimate acquaintance with him.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Jan. 27.—There has been no material change in the state of the Iron or Coal Trades of Derbyshire since last noticed. Notwithstanding the unfavourable state of the weather, and the blocking of trains, there has not been much interruption to the deliveries of ironstone from Northamptonshire, so that the production of pig at the various works has been maintained at the average, and a steady business has been done in it. Prices, however, have not been quite so firm as they were a short time since. Transactions in several qualities of manufactured iron are still but moderate, so that the mills are not turning out so much as they could. Light malleable castings have been in fair request, and at Dronfield the steelworks continue to be busily engaged on rails. The severe weather and the miners' strike in Lancashire have acted most favourably on the coal trade, so that the collieries have been doing well, more especially in house coal and engine fuel. Many wagons from Lancashire have been sent for supplies for the various manufacturers, as well as for general household purposes. In some instances a slight advance in price has taken place, but the exceptional state of the trade, as well as the prices, may be considered as temporary only, for the Lancashire miners are not likely to remain out for many days longer. A large tonnage of house coal has also been sent to the Metropolis during the week, more particularly from Clay Cross, Eckington, Langley Mill, Blackwell, and Grassmoor. Steam coal has not materially improved of late, but a good deal of gas coal continues to be sent away southwards. In coke business continues steady, a considerable tonnage being forwarded to Sheffield and the neighbourhood.

Trade in Sheffield, taken altogether, is good, and in some branches there has been increased activity of late. In pig-iron the output has been of a uniform character, and stocks have not materially increased, which is a most satisfactory sign. The Bessemer rail works continue busy, and some large orders have been placed for some of the American lines that will keep the makers busy for some time to come. Railway material of nearly all kinds, including springs, axles, and carriage wheels, is still in tolerably brisk request. At the mills engaged in ship and boiler plates, bars, sheets, hoops, and wire there has been considerable activity, whilst armour plates of the composite character, iron and steel, are now being extensively made for our own Government. In the crucible steel department more is being done, and some of the largest castings yet made of it have been lately turned out. The cutlery houses are also favourably off, America being still a good customer, whilst there is rather more doing in the home markets. Contrary to what was expected at the close of last year, skate manufacturers have, and are having, a busy time of it, and stocks have gone off almost as fast as they have been produced. The foundries remain in much the same state as they have been for some weeks past, as a rule the hands being able to work full time, but some of the engine works are busier than they were.

In the South Yorkshire district the collieries have been working well, a good trade being done with Lancashire owing to the strike, and at increased rates; indeed, such has been the demand that the Manchester, Sheffield, and Lincolnshire Company have been unable to cope with the traffic, although running several trains on Sunday as well as at night. Business doing with London has also been good, but the traffic has been somewhat interrupted by the weather. House coal of course has been chiefly in request, and the metropolitan merchants have had a remarkably good time of it, as there has been a marked increase in the price of Silkstone and other coal consequent on the delay of the trains and the exhaustion of the supplies that were in hand before the block in the lines took place. Steam coal has not improved much of late, but there is a steady business doing in that suitable for gas making purposes.

At the collieries connected with the South Yorkshire and North Derbyshire Miners Association the men have given notice for an advance of wages which will expire in 14 days. Should the demand not be conceded the men will leave work. What course the colliery owners will adopt as yet has not been decided upon, but there is every probability that some of the collieries will be closed.

On Wednesday, at the instance of the mortgagees, Shaw's foundry, Barnsley, was put for sale by auction, and sold for 5250*l*.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Jan. 27.—Colliery proprietors who are this week making deliveries to ironmasters by road and rail, instead of as formerly by canal, are obtaining advances varying between 2s. and 3s. per ton, while supplies at the pit's mouth are advanced in price to new customers by quite 1s. per ton. Most of the ironworks are managing to keep going with about half their plant, but some are wholly stopped, and this number will be added to by the close of the week consequent upon the coal famine. Upon Cannock Chase much activity prevails in meeting the demand from distant parts of the kingdom, occasioned by the stoppage of the supplies of coal from Lancashire. An idea of the extent of the increased traffic upon the local railways may be gathered from the fact that early this week 36 locomotives arrived at Walsall from various parts of the London and North-Western system to convey the extra coal trains. The prices which coal merchants are now demanding for Cannock Chase coal delivered at railway stations in the Wolverhampton district are—best deep coal, 12s. 6d, per ton; kibbles, 11s.; best shallow coal, 12s.; and lumps, 11s. On 'Change yesterday in Wolverhampton, and to-day in Birmingham, only little business was done in raw or finished iron. Tinplates were reported in rather better demand, but makers refused to quote prices except for actual sales. Lincolnshire mine pigs were quoted at 51s., Derbyshire pigs at 50s., and native part mine pigs 2*l*. 15s.

At a meeting of ironworkers held at Brierley Hill, on Monday, it was decided to instruct the operative members of the Wages Board to avail themselves of the earliest opportunity to give notice for an improvement of the present sliding scale. A conference of the men will be held at Wednesbury, on Monday, to consider "the scheme of insurance which has been drawn up by the employers, and also to consider the best means of reorganising the ironworks of South Staffordshire."

An examination for mines managers' certificates under the Coal Mines Regulation Act, was held in Wolverhampton on Tuesday, and yesterday. There were 13 candidates, all of whom, with two exceptions, live in South Staffordshire. Seven of the candidates had previously presented themselves for examination. The four subjects of examination were—(1) ventilation and elementary chemistry as applied to mining; (2) general knowledge of machinery as applied to collieries; (3) surveying; and (4) practical management. For the first subject the examiner was Mr. W. Fairley, of Beaudesert, near Rugeley; in the second Mr. Jonah Davies, of Wolverhampton; and in the other two Mr. John Williamson, of the Cannock and Rugeley Collieries, Hednesford.

TRADE OF THE TYNE AND WEAR.

Jan. 26.—The Coal and Coke Trades have been much interfered with and obstructed during the past week, owing to the heavy falls of snow and frost of very great severity. The main and branch lines of the North-Eastern Railway have in some cases been obstructed and traffic partially stopped, and the colliery lines have been in most cases very much obstructed, and in some cases closed altogether. The shipments of coal and coke have consequently been below the average at Tyne Dock, and at most of the shipping places on the Tyne and Wear. The demand for house coals is very strong, both for local use and for shipment, and Durham house coals were advanced 1s. per ton on Monday. The demand for second-class and manufacturing coals is very strong, but prices have not as yet been advanced much. The shipment of gas coals has been much retarded, owing to the effects of the severe snow-storm. The steam coal trade is only moderate at present; the export trade is likely to be somewhat dull for some time to come, as the reports from the Baltic and North-Eastern Europe show that the movements of vessels are stopped for the present, owing to the severe frost, which has closed many of the ports, and even seas. From the Sound to the coast of Norway is entirely frozen.

The Tyne continues open as high as Scotswood, but above that point coal and firebrick shipments into lighters is closed. The storm has put a stop to many important trades—the building trade, iron shipbuilding, &c.—and thousands of workmen are idle in consequence on those rivers. The Seaham Colliery is still closed, the men obstinately refusing to work while the Maudlin seam is closed and the bodies remain there, contrary to the advice given them by the inspectors the engineers consulted, and the union agents. As the coal trade is improving, great exertions have been made to increase the output of coals at the other works of the Marquis of Londonderry. At Silksworth 2000 tons of coal per day are worked. The old Durham Colliery, which was closed four years ago, owing to the great depression in trade at that time, is to be re-opened immediately by the Marquis, and the village of Gilegate Moor, which was nearly depopulated owing to the stoppage of those works, is again showing signs of animation. The Pensher Colliery, belonging to the same great firm, is also being re-opened. This fine old Wear Colliery was closed a short time ago, owing to the bad state of the coal trade, but coal working will be resumed shortly.

The operations at the extensive new winning at Marsden are pushed steadily forward in both the shafts. In the first shaft one of the upper seams of coal is worked for the engines, and some time must elapse ere the main and valuable seams of house and steam coal are reached. The successful issue of the enterprise is, however, no longer doubtful. It will be recollected that these shafts could not be got down at this point, owing to the great influx of water, by the ordinary method of sinking, but the shafts were sunk through the water-bearing strata by the Chaudron system. Valuable beds of limestone have been found here, and a large quantity of the stone is now worked and sold in the district. At Monkwearmouth a large quantity of coal is turned out. Both the pits are worked double shifts night and day. It is remarkable that the Maudlin or Bensham seam is found in great perfection here, and from 7 ft. to 9 ft. in thickness, the average thickness of the seam in Durham not exceeding 5½ ft.

The coal trade continues good, and the tendency of prices is upwards; the negociations that are now entered into for renewed contracts are on the basis of higher prices. The production of coke in Durham is higher now than at any former period; over 230,000 tons are now sent to the local ironworks per month. The demand from the West Coast has slightly decreased, owing to the make of coke at the Cumberland collieries, but a fair amount is sent to Yorkshire, and the export of coke has increased considerably.

In Cumberland the coal trade continues to improve. Coke is manufactured at some of the works, which is consumed at the ironworks. The accountants appointed by the Cumberland coalmasters and the Miners' Union have certified the average selling price of coal for the quarter ending December 31 at 5s. 2d. per ton, and as the price for the previous quarter was 4s. 10d. per ton there has been an advance in the selling price of 4d. per ton. There will be no change in the miners' wages during the next three months.

The iron trade has been quiet; makers are very firm, and will not sell below late quotations—that is, about 42s. for No. 3. Shipments are very much retarded by the severity of the weather, and the accounts from abroad of the closing of ports by ice; and stocks are, therefore, likely to increase largely during the next month. Merchants under these circumstances are strongly "bearing," and attempt to bring down prices. Messrs. Connall's stocks are now 133,000 tons. In the manufacturing iron trade there is a gradual hardening of prices, and a general advance in the value of plates is expected shortly. Plate makers are full of orders, and pressed for delivery, and they will increase their quotations. Plates at present stand at 6*l*. 17s. 6d.; angles, 5*l*. 17s. 6d.; bars, 5*l*. 15s. Arrangements are being made at Eston by Bolckow, Vaughan, and Co. for starting another plate mill, and they are also greatly extending their steelworks. At Middlesborough on Tuesday the market was very dull. The severe weather has prevented the delivery of iron both by sea and rail to a great extent, and merchants accepted lower rates; No. 3, 40s. to 40s. 3d. No. 4 forge was in more demand. Very little enquiry for warrants; No. 3 is 41s. 9d. The shipments of pig-iron have been very small lately. Foreign and coastwise ports in Scotland are blocked with ice; the stocks are, of course, increasing. There is great activity in the steel trade. Bolckow and Vaughan turn out 3000 tons per week, and this will be increased shortly. Some dissatisfaction still prevails with respect to the railway rates charged on mineral traffic in Cleveland. Coal and coke are in growing request, and prices are increasing in firmness.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Jan. 26.—With 20° of frost, and a strong north-east wind that blew the loose snow like so many needles into my face, a visit to the slate quarries of Nantlle is accomplished under difficulties. Neither is there much to be seen except frozen pumps, water-wheels draped in icecicles, machinery lying idle, with here and there a few men at work in a sheltered nook in the quarries: these are the common objects of the valley to-day. Inside the offices, however, matters wear a cheerful aspect. Plenty of orders, no stock of slates, and a prospect of a very brisk trade when the spring comes, give a cheerful tone to the conversation. There are not many public-houses in the valley—a comfortable little hotel and a cosy hostelry make up the number. At the latter there is evidently an expectation of many visitors to-day, as the men grow tired of staying in the houses. The walk from here to the quarrymen's village of Llanllyfni is nearly three miles, and a toilsome walk it is to-day through piles of drifted snow, with traces of the path made by the quarrymen obliterated by the driving snow. As I toil along I am curiously enough reminded of a reference to my peregrinations made by "Enquirer" about this time last year, in which I am credited with scudding about the country in a pony trap. Well, there is no scope for pony gigging to-day, and by the time I have reached the "Quarrymen's Arms" at Llanllyfni, I feel as if I could face any kind of weather on this side of the North Pole.

I have passed the range of quarries on the south side of Nantlle, Tan-yr-Allt, Taldrws, Tyddyn Agnes, and the rest, and the question arises, Why have not the quarries on this side of the valley been successful? Here and there may be defects in the rock, too many joints and the like, but still there is plenty of room, notwithstanding there is good rock for quarries. A shrewd quarry manager gives answer—They are too young; I remember them all starting, whereas the quarries on the other side—Celgwyn, Penybryn, Pen-yr-orsedd, Dorothea, Talysarn, and the rest, have been worked off and on for several generations, and they each have gone through the depressing phrase now presented by these south Nantlle quarries. I admitted there was force in these remarks, and I cannot but think that there is a good future for them. One of them has recently been taken by a local company, and work is to be resumed. The Penybryn Quarry still remains idle, which is a pity for a good quarry such as it is. What is wanted in Nantlle is a clean sweep of these heaped-up debris heaps into the sea, and the opening out of these yawning chasms of quarries into a better and larger form.

The local highway boards are busy, and while pouncing upon carriers of mine produce they are not unmindful of the timber carrier. As an illustration of the estimating powers of a highway surveyor, I may mention a claim which I have seen to-day by a Shropshire surveyor for 35*l*. for damage to six miles of road for carrying 150*l*. worth of timber over it! And this, too, besides the ordinary rates paid by the land. Surely it ss time something were done to put a stop to the arbitrariness of such estimates. Would not a tax of 3d. per day per horse on traders' horses, and double this amount on the horse power of a traction engine, meet all the just requirements of the case, leaving the balance, as at present, to be paid by a highway rate?

One of the large "blasts" which are from time to time fired in limestone quarries has just taken place at Mr. Lester's lime quarries, near Wrexham. It is estimated that 50,000 tons of stone were detached by the employment of 18 cwts. of powder.

VENTILATION OF DWELLING HOUSES.

Warmth is of such paramount importance to render the dwelling-house agreeable that not unfrequently it is obtained at a sacrifice of attention to ventilation, and consequently that which should yield additional comfort becomes an absolute evil. The comparative rarity of a fire-place which is not subject to fits of smoking leaves no doubt that great carelessness very commonly exists. And this is the more regretable, as ample has been written by competent authorities to make the correct principles of warming and ventilating thoroughly understood. The works of Mr. Frederick Edwards, jun., has long been familiar to the readers of the Journal, and he has now published the second edition, revised, of the volume which has already obtained him condsiderable reputation—"The Ventilation of Dwelling-Houses, and the Utilisation of Waste Heat from Open Fire-Places;" including chapters on London Smoke and Fog, Modern Fire-places, &c. By Frederick Edwards, jun. Second Edition, revised. London: Longman's, Green, and Co.—and which, especially during the present very severe season, should claim careful study. The volume is divided into five chapters, each of which contains much valuable information. In the first there is a short account of those who have introduced arrangements for ventilating public buildings, and of the systems adopted; then there is one on some simple appliances for ventilating dwelling-houses; the third treats of London smoke and fog. This is followed by a chapter on modern fire-places, ventilation, and smoky chimneys; whilst the concluding chapter contains some considerations on the utilisation of waste heat from open fire-places, and on a comprehensive scheme for the supply of heat to dwellings. The observations are rendered particularly clear by the insertion of upwards of a hundred illustrations.

Mr. Edwards offers sound practical advice on the ventilation of dwelling houses so far as it relates to the admission of fresh air, the withdrawal of impure air, the economical warming of dwellings, and the prevention of smoke. An exhaustive consideration of the subject of ventilation would entail an enquiry into every cause of impurity, and open up the entire subject of sewage and drainage. This the author does not attempt. He points out that in most modern grates the principal of slow combustion which he has been recommending for 25 years past has been introduced in some form or other In one case—that of the Coalbrookdale Company—the principle of controlled combustion has been recently adopted on the method introduced by Mr. Edwards 17 years ago, but though he has urgently represented to that company that as a matter of courtesy and honour they should describe their grates as constructed on the principle introduced in 1863 by himself he has utterly failed to persuade the managers to comply with a just and reasonable demand. The principle of heating a large number of houses from a single powerful furnace, which the author discussed in the previous edition of his book, has not been introduced in this country, but has been introduced in America, where his volumes have circulated.

The system of utilising waste heat has not been used to his knowledge, but he hopes that the modified system of utilising the waste heat which passes from the fire up the chimney simply to the height of the ceiling will have a better chance of becoming adopted. He has shown that by some of our chimneys we discharge as much as from 20,000 to 60,000 cubic feet of air per hour. This air does not come entirely from our houses, or we should die from inanition. It comes from our doors and windows, occasioning draughts of cold air. It comes up from the basement of a house, bringing with it smells of cooking, and other impurities. It descends unused chimneys, bringing with it a smell of soot, and causing them to smoke when a fire is lighted. It comes down the short chimneys of our attics and small back rooms built outside the main structure of a house, rendering them cold, uncomfortable, and the chimneys the most incorrigibly smoky ones with which the builder has to deal; and it comes from even worse sources. It comes up the numerous escape pipes which communicate with our drains and sewers, bringing with it abominable contamination. If the air does not come in in sufficient quantity to replace what passes away, what do we get? We get a close atmosphere, sluggish currents in our chimneys, and an occasional return of offensive products of combustion. Throughout the entire

volume Mr. Edwards displays a very intimate knowledge of the subject, and there can be no doubt that if his suggestions be attended to the comfort and salubrity of our dwelling houses will be much increased.

LONDON WATER SUPPLY.—The first report on the composition and quality of daily samples of the water supplied to London, presented to the President of the Local Government Board by Mr. W. Crookes and Profs. W. Odling and C. Meymott Tidy, has just been issued, and consists of very carefully prepared tables, showing the date and time of collection, the name of the company whose mains supplied the sample, the place where the sample was drawn, and the appearance, hardness, and contents of the water tested. They state that they desire to lay before the President the results of their examinations and analyses of daily samples of the water delivered in London by the seven companies deriving their supply from the Rivers Thames and Lea for the month ended January 19. The samples are collected by a man entirely under their own control, at places and at times appointed by them, and unknown to the officers of the several companies. As yet no daily analyses of the London water have been recorded. All the reports hitherto published relate to a single sample of each company's water taken on one day only in the course of a month. It is manifestly impossible to judge the character of a whole month's supply by a single sample. This may prove to be very good, whilst the water supplied during the rest of the month may be very bad, or *vice versa*. From the analyses made they are of opinion that considered both chemically and physiologically the water delivered by the companies during the month over which these examinations extended was of excellent quality, wholesome, and in every respect well fitted for the supply of the Metropolis.

LA PLATA MINING AND SMELTING COMPANY.—The New Year's number of the Leadville Daily Herald gives the place of honour to an illustration of the La Plata Mining and Smelting Company's bullion floor, which is without question a large and well-constructed building, affording plenty of room for the performance of an enormous quantity of work, although at the moment the picture was taken but very little work was being done, for the whole of the workmen, and they are numerous, shown are standing in astonishment with their eyes fixed upon one point, which as it is not within the picture may be supposed to be the camera The handsome monthly dividends regularly paid by the company leave no doubt however that at other times they are more industrious. The Herald, which is itself a marvel both for size and character, likewise contains illustrations of the surface at Roberts's shaft, Chrysolite Mine, and view of the shaft house, the crushing room of the La Plata smelter, the ore house, the weighing of the ore, mixing the ores, feeding the furnaces, drawing off the slag, and innumerable other illustrations, as well as a complete account of Leadville and its buildings and advantages. The year's bullion shipments from the City of Leadville amounted to $15,040,715, produced by 21 smelters, of whom La Plata stands second, the make of the five principal ones being—Grant Smelting Company, $4,018,290; La Plata, $2,316,310; Billing and Eilers, $2,105,701; Eddy, James and Co., $1,363,334; and Cummings and Finn, $1,324,213. Irrespective of these shipments the smelters had over 28,000 tons of ore in the works awaiting treatment, and of course the quantity of ore at the mines was enormous. With such figures as these it is not surprising that the Leadville District generally, and La Plata Mining and Smelting Company in particular, should attract the attention of British capitalists

HOW TO INVEST.—The new edition—the fifteenth—of the pamphlet for investors, periodically issued by Mr. E. J. Bartlett, of Great St. Helen's, has just been published. It has now been enlarged to over 100 pages, and is if anything more valuable than its predecessors. It has frequently been remarked that such a work is greatly needed at the present time, when the public are truly in want of such advice as they can here obtain for 1s. Few men are in a better position than Mr. E. J. Bartlett to reassure the timid investor or to caution a bold one. In this book he tells his readers that he has had 16 years' experience in the City, and any one who peruses these pages will come to the conclusion that he has acquired a stock of information which he now furnishes. There is no reason to doubt that the outlay of this insignificant sum now may lead to the saving of hundreds if not thousands of pounds, or afford a guide to profitable investments. When Mr. Bartlett published his original pamphlet—"Capital, and How to Invest It"—he could scarcely have dreamed that the demand would be so great and the requirements of his readers so urgent that he would be continually compelled to increase the size of his work, but experience has shown the necessity. Amongst the new features introduced into this edition is a chapter on "Investments in Land—are they desirable?" With its conclusions many thoughtful men will agree, and Mr. Bartlett has done well to speak out with no uncertain sound upon the subject to stir the hearts of men, and certainly not before it is time. There is a chapter on Indian gold mines, and another new feature is a dictionary of mining terms, which may be commended even to persons who profess a knowledge of mining, but who display their ignorance of it when they come to deal with its technical terms. But Mr. Bartlett does not confine himself to mining. He has distinct articles upon Trade and Commerce, British and Indian, Colonial and Foreign Government Securities, Railways, Banks, Telegraphs, Tramways, Gas, and Water Companies; Coal, Iron, and Steel; Metallic Mines; Mines specially recommended; approximate List of Loans of Defaulting States, and two chapters pregnant with advice to investors of the most wholesome kind. How Mr. Bartlett can give so much for 1s. one cannot understand, but he himself is confident that he will be reimbursed by the largeness of the circulation of his book, and in this we do not think he will be disappointed.

BRITISH ASSOCIATION JUBILEE MEETING.—An influential meeting, presided over by the Lord Mayor of the City, was held in the Guildhall, York, on Wednesday, for the purpose of appointing a local committee and making other necessary arrangements. Lord Herries moved the first resolution, to the effect that that meeting cordially agreed to welcome the British Association to York this year, and in doing so attached a special interest to the fact that the Association began its existence there. Mr. E. V. Harcourt seconded the resolution, which was supported by Mr. Ralph Creyke, M.P., and carried unanimously. It cannot be doubted that the present year's meeting will be an especially interesting one, whether considered in connection with the congratulations which will be offered on the progress of the Association, or with the regrets which will be expressed concerning the great and genial scientists who have flourished and passed away since the first meeting of the Association at York in 1831.

DERBYSHIRE LEAD MINING.—The admirable paper of Mr. A. H. Stokes, Assistant Government Inspector, which has several times been referred to in the *Mining Journal*, was again brought forward for discussion at the recent meeting of the Chesterfield and Derbyshire Institute of Mining, Civil, and Mechanical Engineers, when Mr. R. G. Coke remarked that he thought that with a sufficient population and with the assistance of hydraulic engines a very large field of employment might be opened up again. The lead miners of the Peak of Derbyshire were a very good class of men, but their old trade was going away from them as fast as it could. What was wanted now was some person with a large mine to look through the whole district and see if the water could not be taken off at a low level and so bring the mines back to their former state of prosperity. Speaking of the Cornish engines which Mr. Stokes had alluded to in his paper the speaker said he thought they were doomed altogether; the compound pumping engines must take their place, and there could not be better examples of this than at the New Staveley Works. Mr. Mills observed that there was one point which had not yet been raised, and that was as to the royalties which had been paid for the lead. The excessive royalties was the reason that there had not been a development of the work that there should be. Mr. Stokes replied on the discussion, and the Chairman asked them to pass a hearty vote of thanks to Mr. Stokes. They must all agree with Mr. Coke that such a vast mine as they had in Derbyshire should be utilised and so give occupation to many of the inhabitants. The question had been simply one of cost and demand. Demands had been made upon other districts at such a rate that Derbyshire could not compete. He was sure that whenever the demand did increase there would be people ready to explore and work these mines again by improved methods.

MINERAL VEINS.—At the Yorkshire College Students' Association Meeting, on Tuesday evening, Mr. H. B. Hall, assistant lecturer in geology, read an interesting paper on mineral veins, in which he described the chief peculiarities in the mode of occurrence and structure of mineral veins, and pointed out which classes of lodes are usually productive and which are usually unproductive. He described the principal minerals occurring in veins, and briefly explained some of the theories as to how the minerals were formed and deposited in the places where they are now found. In conclusion, the lecturer gave a brief account of the methods adopted for extracting the ores and bringing them to the surface.

PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine sharedealer, Redruth (Jan. 27), writes:—Our market has been quiet during the week, with but little business doing. Carn Brea shares have risen 4*l.*, and Dolcoath shares 10s. Wheal Prussia shares, after being neglected for some time, are enquired for at 1⅞ to 2. Other shares are without change. The following are to-day's prices:—Blue Hills, 3 to 3¼; Carn Brea, 117½ to 120; Cook's Kitchen, 11 to 11½; Dolcoath, 57½ to 57¾; East Pool, 34½ to 34⅝; Killifreth, ⅛ to ¼; Mellanear, 4⅞ to 5⅛; New Cook's Kitchen, 6¼ to 6⅜; North Busy, 2 to 2⅛; Pendarves United, 9 to 10; Penhalls, 1¾ to 2; Pedn-an-drea, 2*l.* 11s. to 2*l.* 12s.; South Condurrow, 10½ to 11; South Crofty, 9¼ to 10¼; South Frances, 11 to 11½; Tincroft, 20⅝ to 20⅞; West Basset, 14 to 14½; West Frances, 11 to 11½; West Kitty, 2 to 2½; West Peevor, 16 to 16½; West Poldice, 3½ to 4; West Tolgus, 45 to 50; West Seton, 15 to 17; Wheal Agar, 5¼ to 5⅜; Wheal Basset, 4¼ to 4¾; Wheal Comford, 4¼ to 4½; Wheal Grenville, 10⅝ to 10⅞; Wheal Jane, ⅛ to ¼; Wheal Peevor, 26½ to 27½; Wheal Kitty (St. Agnes), 4 to 4½; Wheal Prussia, 1¾ to 2; Wheal Sisters, 2 to 2¼; Wheal Uny, 4¼ to 4⅜.

— Mr. J. H. REYNOLDS, stock and share broker, Redruth (Jan. 27), writes:—A better enquiry has sprung up for all the leading stock during the last two or three days, consequent on the improved aspect of the tin market. Carn Brea, Dolcoath, and East Pool shares close at an advance. Supjoined are the closing prices:—Blue Hills, 3 to 3½; Carn Brea, 118 to 119; Cook's Kitchen, 11 to 11½; Dolcoath, 57¼ to 57¾; East Pool, 34 to 34¼; Levant, 4 to 5; Marke Valley, 1½ to 1¾; Mellanear, 4¾ to 5¼; New Cook's Kitchen, 6 to 7; North Busy, 2 to 2⅛; North Herodsfoot, 10s. to 12s. 6d.; Pedn-an-drea, 2½ to 2¾; Pendarves United, 9 to 10; Phœnix, 2 to 2½; Penhalls, 1¾ to 2; South Caradon, 60 to 65; South Condurrow, 10¾ to 10¾; South Crofty, 9⅛ to 10; South Frances, 10½ to 11; Tincroft, 20½ to 21; Trugo, 1¼ to 1¾; West Basset, 14 to 14¼; West Frances, 11 to 11½; West Peevor, 16 to 16½; West Poldice, 3½ to 4; West Seton, 16 to 18; West Tolgus, 50 to 55; Wheal Agar, 5¼ to 6; Wheal Basset, 4¾ to 5; Wheal Crebor, 4 to 4½; Wheal Comford, 4 to 4¾; Wheal Grenville, 10½ to 11; Wheal Jane, 10s. to 15s.; Wheal Jewell, 12s. 6d. to 15s.; Wheal Kitty, 4 to 4½; Wheal Peevor, 26¼ to 27¼; Wheal Prussia, 1¾ to 2; Wheal Uny, 4 to 4¼. Cornish Bank shares 20*l.*

— Mr. JOHN CARTER, mine sharedealer, Camborne (Jan. 27), writes:—The share market has been steady throughout the week, and as there is a recovery in the price of tin in the London market mine shares have also improved during the last few days. Quotations annexed:—Blue Hills, 2¾ to 3; Carn Brea, 117½ to 120; Cook's Kitchen, 10¾ to 11¼; Dolcoath, 57½ to 58; East Caradon, 2 to 2¼; East Pool, 34 to 34½; Mellanear, 5 to 5¼; New Cook's Kitchen, 6¼ to 6¾; North Busy, 2 to 2¼; Penhalls, 1¾ to 2; Pedn-an-drea, 51s. to 53s.; South Caradon, 65 to 67½; South Condurrow, 10¾ to 10¾; South Crofty, 10 to 10½; South Frances, 11 to 11¼; Tincroft, 20½ to 21; West Basset, 13½ to 14; West Frances, 11 to 11½; West Peevor, 15¾ to 16¼; West Poldice, 3¾ to 4; West Tolgus, 47½ to 50; West Seton, 15 to 16; Wheal Agar, 5½ to 5¾; Wheal Basset, 4¾ to 5; Wheal Grenville, 10⅝ to 10⅞; Wheal Jane, 12s. 6d. to 15s.; Wheal Peevor, 27 to 27½; Wheal Kitty, 3¾ to 4; Wheal Uny, 4⅛ to 4⅜.

— Mr. M. W. BAWDEN, Liskeard (Jan. 27), writes:—The mining market presents an improved appearance, with buyers of most stock at an advance on last week's quotations with every probability of tin realising higher prices than has yet been obtainable. Subjoined are the closing quotations:—Bedford United, 1¼ to 1⅜; Carn Brea, 115 to 117; Gunnislake (Clitters), 3½ to 3¾; Cook's Kitchen, 11 to 11½; Dolcoath, 57 to 57½; Drake Walls, 1½ to 1¾; Devon Consols, 15½ to 16; Devon United, 2 to 2¼; East Caradon, 2 to 2⅛; East Crebor, ¼ to ⅜; East Herodsfoot, ½ to ⅝; East Pool, 34 to 34½; Gawton United, 1¼ to 1⅜; Glasgow Caradon, 1 to 1½; Herodsfoot, ⅝ to ¾; Hingston Down, 1⅜ to 1½; Marke Valley, 1⅝ to 1¾; New West Caradon, ¾ to ⅞; North Herodsfoot, ⅝ to ¾; Old Gunnislake, ⅝ to ¾; Phœnix United, 2½ to 2¾; Prince of Wales, ⅞ to 1; South Caradon, 65 to 67½; South Crebor, 1½ to 1¾; South Crofty, 9½ to 10; South Frances, 11½ to 12; Tincroft, 20½ to 21; West Basset, 14½ to 15; West Caradon, 1⅞ to 2; West Chiverton, 1 to 1⅛; West Frances, 11 to 11¼; West Mary Ann, 1 to 1¼; West Phœnix, 1¼ to 1½; West Seton, 16 to 16½; West Tolgus, 50 to 51; Wheal Agar, 6 to 6¼; Wheal Crebor, 4¾ to 4½; Wheal Grenville, 10½ to 11; Wheal Hony and Trelawny, 2½ to 2¾; Wheal Kitty, 3¾ to 4; Wheal Jane, ¾ to ⅞; Wheal Peevor, 26 to 26½; Wheal Uny, 4½ to 4¾.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (Jan. 27), write:—Owing in no small degree to the severity of the weather, and the consequent interruption to telegraphic and postal communications, the dealings marked during the week have been comparatively few, and this has been contributed to also by the approach of the settlement the fear of lower prices as a result of bad traffic returns not only restricting the number of fresh operations, but causing a pressure of sales, which further helped the downward movement. Hopes are entertained, however, that on the arrival of milder weather fresh strength will be shown on the market, and prices rally again. As hinted above, speculative stocks have all more or less drooped, but in other classes figures are generally very fairly maintained, though the cases of sharp advance are not so numerous as were noticed last week. In one or two instances of this nature some little ease is noticeable from highest points, but no weakness is exhibited, and the slight relapse appears merely the result of a lull in buying.

BANKS during the earlier days of the week were neglected, but latterly rather more dealings have been marked, and prices realised are either best lately reached or advances thereon. The alterations show no instances of actual decline, though many quotations are lower consequent on their now being ex dividend. Taking the dividends into account the figures remain steady, the only alteration of note being a rise of ½ in Manchester and Salford on their announcement of intention to register with limited liability. A scheme is formulated for the reconstruction of the Southport and West Lancashire Bank, which suspended payment last week by the issue of preference capital, a large amount of which it is announced has been already applied for. That the scheme should be successful it appears to the interest of all connected with the bank, for it is confidently hoped that a judicious handling of its affairs will avert the disaster of compulsory winding-up would doubtless have been for the immediate neighbourhood.

INSURANCE, excepting Thames and Mersey Marine, have not produced many dealings, but what transactions are marked have been at steady rates. Thames and Mersey have been done several times, and the latest quotation is the best of the week. The other dealings are solitary. The alterations are irregular; but, whilst a few of the advances are noteworthy, the declines are in almost all cases merely fractional.—Higher: Commercial Union, 1; Royal Liverpool, ¾; Ocean Marine, ½; National Boiler, ⅛; Lancashire and Yorkshire, ⅛; Lancashire, ⅛; and English and Scottish Boiler, 1/16.—Lower: British and Foreign Marine, ⅛; Boiler Insurance and Steam-Power, ⅛; Imperial Marine, ⅛; Maritime, ⅛; and Queen Insurance, 1/16.

COAL, IRON, &C., AND MINING.—Bolckows fully paid, Ebbw Vales, and Canadian Copper have furnished the bulk of the transactions; the two former at rather lower figures, and the latter at a good advance. With these exceptions the dealings have been of a desultory character. The variations for the better are not in so large a majority as has been the case for the past few weeks, but the declines do not show any serious reverses. Higher—Tharsis Sulphur and Copper, 2¼; Canadian Copper and Sulphur, 5s. 6d.; Chatterley Iron, ½; Palmer's Shipbuilding, ½; Staveley Coal, &c., ½; Chillington Iron, ¼; and Telegraph Construction and Maintenance, ¼. Lower—Bolckow (all paid), ⅜; Parkgate Iron, ⅜; Consett Iron, ½; Ebbw Vale Steel, &c., ⅝; and Llynvi, Tondu Coal, &c., ⅜.

COTTON SPINNING AND MANUFACTURING.—Up to the past two days this market has ruled flat and little doing, but yesterday a demand sprung up, and advanced figures were marked, which has continued to-day, but business is restricted, owing to sellers evincing no disposition to act unless at rates above those which buyers seem as yet unwilling to spring to.

TELEGRAPHS, where changed, are lower. Anglos Deferred, ¼; ditto Preferred, 1. Directs, ⅜; and West India and Panama, ½.——CANALS show no change to report.——CORPORATION STOCK.—Manchester Corporation Stock ¼ higher, and others without alteration.——MISCELLANEOUS variations confined to a rise of 1 on Union Plate Glass; ¼ on Manchester Carriage, C; ⅛ on ditto, A; and 1/16 on Household Stores: and a fall of ¼ on J. P. Westheads.

RAILWAYS.—The movements in rails show another decided fall all round, there being no instance in which figures quote better than a week ago. Great Northern, A, are 3; Sheffield Ordinary 2½; ditto, deferred, 2½; Great Western, 3; Benoich's, 2; Caleys, 1; Lancashire and Yorkshire, 1. Brighton, A, lower, and and most others more or less depreciated in value. The traffic on the Great Western has added materially to its decline. The account has been almost arranged, and rates, which ruled heavy at the commencement, having eased, a fresh impetus was thus given to most stocks, so that to-day a recovery is noticeable, Sheffield and North-Eastern being the only exceptions, the latter influenced by dividend rumours. The change in Canadians is not so manifest as at one time, Great Westerns only marking a fall of any importance. In Americans fluctuations have been numerous, consequent on the absence of New York prices, and the easing of accounts open for the rise prior to the continuation day. As in others, so in these, the tone is improved, and all look better.

HULL.—Mr. W. FOWLER SUTTON, stock and share broker, St. Mary's Chambers (Jan. 27), writes:—Prior to the settlement which commenced on Wednesday the railway markets were very flat, and important declines took place in most stocks. However, on it appearing that the "bull" account had been materially lessened, a better tone became prevalent (further helped to-day by the milder weather), and though the markets can scarcely be described as buoyant, yet the tone is decidedly healthier, and there is room for more business at progressive prices. American stocks generally firm, especially Ohios (late Atlantics) and Oregons, both of which are expected to advance considerably sooner or later. The Trunk market is also better and may be expected to improve again after the recent fall. Local stocks firm. Hull Banks, 12¼; Yorkshire ditto, 25; London and Yorkshire ditto, 32s.. ex div.; Hull Docks, 93; Hull Trams, 9½; Hull Gas, 54; Hull and Barnsley Railways, par.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (Jan. 27) writes:—During the past week markets were again flat owing to the continuance of severe weather and the firmer money market, which not only checked buying but also discouraged holders at a time when with a considerable outstanding account for the rise and another settlement approaching support was specially requisite. The new account for February 10 commenced with a tendency in prices to recover, and after the recent fall there is, of course, room for improvement.

In shares of coal, iron, and steel companies the movements for the week comprise advances of 6s. on Steel Company of Scotland and 5s. on Chillington Iron, but Ebbw Vale are reduced 12s. 6d. per share, Bolckow Vaughan, 5s., Monkland (pref.) 3s. 9d.; also Marbella and Monklands each 1s. In the Scotch pig-iron warrant market prices have been steady, from 52s. 3d. to 53s. 3d., and do not appear inclined to go under 52s. or so., even in face of increasing stocks. The reports from America are encouraging, and no doubt as the year advances the stocks of Scotch pigs there will be used up and purchasing recommenced here in earnest. The quotations there for Gartsherrie are $23 and for Coltness $23½, or equal to about 59s. for the former and 61s. for the latter f.o.b., which represents a loss of 1s. 6d. to 3s. per ton on to day's value here. We may, therefore, soon expect advices of a rise in America. Benhares are steady 9s. to 9s. 6d. The Rhymney has declared an interim dividend of 15s. per share, payable Jan. 28, and at the same time issue a report giving favourable accounts of the prospects of a regular and profitable trade. Andrew Knowles and Son are at 12½ dis.; Bolckow, Vaughan, 29¼ to 29¾; ditto (12*l.* paid), 97s. 6d. to 100s. prem.; ditto (pref.), 21*l.* 8s. 9d.; Bilbao Iron, 31¾; Bilson and Crump Meadow Colliery, 60s.; Cardiff and Swansea Coal, 32s.; Chatterley Iron, 10½; Chillington Iron, 85s. to 95s.; Charles Cammell and Company, 6¾ dis.; Clyde Coal, 93s. to 95s.; Consett Iron, 17 prem.; Darlington Iron, 14 dis.; Ebbw Vale, 8¾ to 8 dis.; Great Western Colliery, 60s.; Glasgow Port Washington, 57s.; Henry Briggs, A, 10 to 12; John Bagnell and Sons, 22s. 6d.; John Brown and Co., 14¾ dis.; Lofthouse Colliery, 75s.; Llynvi and Tondu, 13½; ditto (pref.), 5s. prem.; Marbella Iron, 85s. to 87s.; Monkland Iron, 55s. to 57s.; ditto (pref.), 5½ to 5⅝; Muntz's Metal, 13¾; Mwyndy Iron, 45s.; Mersey Steel, 47s. 6d. dis.; Nerbudda, 10s. to 15s.; Newport Abercarn, 7¾; Oakham Colliery (pref.), 5s.; Omoa and Cleland, 35s.; Parkgate Iron, 22s. 6d. prem.; Pelsall Coal and Iron, 5¾ dis.; Sandwell Park Colliery, 10½ dis.; Steel Company of Scotland, 11¼ to 11½; Staveley, A, 19; ditto, D, 13¼; South Wales Colliery, 45s.; Teeside Iron and Engine, 60s.; Thorps Gawber Hall, 20s.; ditto (pref.), 30s.; Tredegar, A, 22; West Cumberland, 8 dis.; and West Glendore Coal, 50s.

In shares of foreign copper and lead companies prices have had a decided upward tendency. Tharsis have improved 2*l.* 1s. 3d. per share, Cape 1*l.*, Rio Tinto (5 per cent.) 10s., Canadian 6s. 6d., Tharsis (new) 5s., and Panulcillo 1s. 3d., Huntington exceptionally lower. A favourable report has been received from the Yorke Peninsula Company, and the ore returns continue satisfactory. The advance in Canadian Copper shares, which touched 50s., is ascribed to an assay of their ore turning out very well. Their debentures are also enquired for. Tharsis, which commenced at 35½, have now improved to 37¼, 37½. Copiapo are at 15; New Quebrada, 6⅜; Pontgibaud, 16; Virneberg, 30s. to 40s.; and Yorke Peninsula, 5s. to 7s. 6d.

In shares of home mines business continues quiet. Glasgow Caradons are 2s. lower, at 25s.; and the new shares have been done at 15s. The North Molton has now completed the most difficult steps towards its reconstruction, and it is hoped soon to be in more active operation. Bwlch United are 20s. to 30s.; Blaen Caelan, 22s. 6d.; Devon Consols, 15½; Devon United, 50s.; East Caradon, 40s.; East Chivirton, 20s. to 25s.; East Long Rake, 22s. 6d.; East Van, 30s.; Frongoch, 30s.; Great Lavey, 18¾; Hingston Down, 30s.; Herodsfoot, 16s.; Indian Queen, 35s. to 45s.; Marke Valley, 32s. 6d.; Mid-Devon, 2s. 6d. to 5s.; Mwyndy Iron, 45s.; North D'Eresby, 25s.; Parka Consols, 35s. to 45s.; Pant-y-Mwyn, 15s. to 25s.; Roman Gravels, 10½; South Devon, 20s. to 25s.; South Caradon, 67; South Darren, 45s.; South Crebor, 25s. to 30s.; Tamar, 20s. to 22s. 6d.; Wheal Coates, 23s.; Wheal George, 25s.; Wheal Jane, 10s. to 15s.; Wheal Crebor, 85s.; Wicklow Copper, 6s.; West Kitty, 35s. to 45s.; West Chiverton, 25s. to 35s.; West Seton, 18; West Phœnix, 40s.; and Ystwith, 25s.

In shares of gold and silver mines prices remain steady. Richmonds are unaltered at 16½ to 17; this week's run being 85000 higher at 655,000. The South Indian Company has issued a circular that they have got an offer for two out of their six properties, and that it is equal to the price given for the whole properties. Flavillas unaltered. Almadas are at 7s. 6d. to 10s.; Callao Bis, 27s. 6d. to 32s. 6d.; Colorado, 50s.; Chontales, 4s. to 6s.; Devala Moyar, 52s. 6d.; Devala Provident, 1s. 3d. to 3s. 9d.; Eberhardt, 65s.; Emma, 67s. 6d.; Flagtaff, 30s.; Gold Coast, 4s. to 6s.; Indian Glenrock, 53s; Indian Mammoth, 5 dis. to par; Kapanga, 10s. to 15s.; La Plata, 40s.; Mysore, 22s. 6d.; New Gold Run, 5s.; Nava de Jadraque, 15s.; Noveau Monde, 30s.; Ooregum, 5s. prem.; Pestarena United, 7s. 6d.; Rossa Grande, 6s. 3d.; Ruby, 5¼; Rhodes Reef, par; St. John del Rey, 270; Tecona, 5s. to 10s.; and Wynaad Perseverance, par.

In shares of oil companies Broxburn and Young's Paraffin have each advanced 2s. 6d. per share. Other prices are steady. Young's Paraffin, 12¾ to 13.

In shares of miscellaneous companies there is no particular alteration to notice. At the meeting of the Phospho Guano Company, on Feb. 3, the report to be submitted states the year's profit 10,566*l.*, inclusive of 2895*l.* brought forward; a dividend of 7s. per share (5 per cent.) is recommended, leaving 2881*l.* to carry forward. Cheshire Salt are at 9; Halcomb and Company, 20s.; India Rubber, 16 to 18½; Milner's Safe, 10; Palmer's Shipbuilding (B), 4½ dis. Scottish Wagon company's shares are now quoted ex div. Prices of chemical companies shares are—Langdales, 55s. to 65s.; Lawes' 5½ to 6; Newcastle, 50s. to 60s.

SCOTTISH WAGON COMPANY (Limited).—The meeting of this company is to be on Jan. 31, and the report for the half-year ended Dec. 31, then to be submitted, says 1286 wagons were added to the stock at a cost of 57,944*l.*; 708 wagons were sold to lessees in terms of agreements. The total number of wagons now running is 15,733. The net balance of revenue account, after deducting from wagon rents, the amount applicable for capital the half-year, and charging all expenditure in full, is 6837*l.* From this sum a dividend of 5 per cent. is recommended, absorbing 6300*l.*, and the balance added to reserve fund, which is now 9903*l.*

HUNGARIAN COPPER COMPANY (Limited).—The rise in the Rio Tinto shares from 2*l.* to 3*l.*, up to 22*l.*, has directed attention to similar undertakings, and this concern is considered one of the things worth attention while at low prices, and as by far the cheapest shares in the market. Numerous enquiries from Scotland are reported for them, while on the London Stock Exchange about 5000 have been dealt in. The promoters are principally those who were associated with the Van, &c., and they have had it reported upon by Mr. Evans, late her Majesty's Inspector of Metalliferous Mines, whose report is ready for circulation and very favourable. The buying of shares is of a very good character, and some say they will double in value before long.

On Contango Day (Wednesday), the following were the rates of continuation then current:—Contangos—2d. on Canadian Copper; 7d. 6d., 5d. on Clyde Coal; 3d. on Caradon; 2d. on Caradon New; 4d. on Glasgow Port Washington; 5d. on Huntingdon; 6d., 7d. on Marbella; 4d. 6d., 7½d. on Monkland Iron; 10½d. on pref.; 2d., even on Omoa; 1s. on Panulcillo; 3d. on Parry's Copper; 9d. on Rio Tinto; 6d. on South Indians; 3d., 9d., 6d. on Steel Company; 9d. on New; 2s., 2s. 3d. on Tharsis; 5d. on West Kitty; 9d. on Wheal Crebor; 1s. on Wheal Grenville; 1s. on Broxburn; 1s. on Uphall Oil; 1s. 6d. on India Rubber. Backwardations—6d. on Young's Paraffin even. On comparing the making-up prices fixed to-day for the following shares with those current at last settlement for the same shares, the variations thus shown to have occurred during the account are as follows:—Rio Tinto have advanced 30s. per share; Canadian Copper, 6s. 6d.; Broxburn Oil, Clyde Coal, and Richmond Mine, each 8s.; Panulcillo, India Rubber, and Young's Paraffin, each 2s. 6d.; Steel Company of Scotland, 1s. 3d.; and Oakbank, 1s. On the other hand Monkland (preference) and Uphall Oil are each reduced 3s. 9d. per share; Marbella and Monkland ordinary each 3s. 6d; Glasgow Caradon (New) and Huntington Copper, 2s.; and Glasgow Port Washington and Omoa and Cleland, each 1s. The remainder are unaltered—Glasgow Caradon, Steel Company (New), Tharsis, and ditto New.

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and share brokers, Princes-street (Jan. 27) write:—Railway stocks have, on the whole been depressed during the past week, but yesterday and to-day prices have shown some recovery. The market for property shares has remained in an unsettled state. Heritable Securities shares have declined since Monday last from 42s. to 39s. 6d., Property Investment from 25s. to 20s. (recovering again to 21s.), Standard from 89s. to 34s., Scottish Amicable, after declining from 25s. to 20s., have recovered to 23s. A considerable business has been done in Canadian Copper shares, which, after rising from 43s. to 50s., have declined to 48s. 6d. Clyde Coal shares have also had a fair amount of attention, but after a good many changes they close about the same as they were a week ago. Huntingtons have declined from 66s. to 64s. Monkland from 57s. to 56s. Tharsis have had a sharp rise to-day, from 35⅝ to 37¼. The only changes in banks within a week are a reduction in British Linen from 268 to 267, in National from 272½ to 270, and in Union from 213½ to 212½. In insurance shares, Life Association of Scotland and North British and Mercantile are higher, while Royal and Scottish Union, A, are lower.

IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

CORK.—Messrs. J. H. CARROLL and SONS, stock and share dealers, South Mall (Jan. 26), write:—Markets have been very quiet for the past week. Great Southerns keep steady at 115¼, and Midlands at 89⅝ to 90. Bandons also strong at 91½ to 92, and Passages at 10½ to 10¾. National Banks are strong at 68¼, and Munsters at 6⅞ to 7. Hibernians remain 43½ and Provincials 57¼. Cork Steam Packets are dull at 13, and Gas shares offered at 7½. Lyons shares strong at 5¼, and Gouldings at 9¼. Dalys shares remain 3 to 3¼, and Harbour Board Debentures 102⅛ to 102¾.

DUBLIN, JAN. 27.—There has really been extremely little doing in mine shares during the week, and with the exception of a few dealings in Killaloe slate at 10s., it would have been difficult to find any mention of mines in the market. Tramways, gas, and railway shares are equally neglected, and almost the only exception to the dulness is in bank shares, in which there has been a little business.

FORTESCUE (Stannagwyn).—An encouraging special report upon this property has been made by Mr. J. H. Collins, F.G.S., and will be published in next week's *Mining Journal*.

Meetings of Public Companies.

DIEU-DONNE GOLD COMPANY.

The statutory meeting of shareholders was held at the New Exchange-buildings. George-yard, Lombard-street, yesterday,

Mr. H. S. WILD in the chair.

Mr. T. W. MARTIN (the secretary) read the notice calling the meeting.

The CHAIRMAN said that a statutory meeting of this kind was one of hope and expectation, and he hoped and believed that the expectations which were entertained regarding this company would be fully realised. The directors had sent out to Surinam a gentleman of great local and technical experience, Mr. Flint. This was the first English speculation of the kind which had ever been started in Dutch Guiana, and naturally created a large amount of interest. Mr. Flint arrived in Dutch Guiana at Christmas, which was a rather unfavourable time, as the people, from religious scruples, refused to accompany him to the mines. But Mr. Flint did not lose any time, but made visits to the concessions around, and gained a large amount of local and other knowledge, which will prove of value to him in the future. Mr. Flint had given substantial evidence of the value of this property, as he had sent home various specimens of quartz and gold; he had also sent home some diamonds, which, if not of the first water, were still of considerable value, and would tend to add materially to the richness of the company's possessions. For the purpose of assisting Mr. Flint, the directors had also sent out Mr. Archibald Jordan, a gentleman of considerable topographical knowledge, who was not only acquainted with the property, but also with minerals of all kinds. Mr. Jordan went out in the Medway, which sailed the other day from Southampton. The shareholders would be glad to know that the property could be worked without that large outlay of capital which properties of this kind generally involved. There was a great amount of alluvial soil, which could be easily worked. He hoped that before this meeting a telegram would have been received from Mr. Flint, but it had not yet arrived. However, as he had said, those two gentlemen had gone out, and they carried with them the full confidence of the directors. In conclusion, the Chairman reiterated his belief in the great value of the property which had been secured for the company, and said the directors would be only too happy to answer any questions which any shareholder might wish to put. He added that Mr. Pinto, who knew the property well, was present, and probably the shareholders would like to hear a few words from him. (Hear, hear.)

Mr. L. PINTO said he was a shareholder, which showed his confidence in the property, and he firmly believed there was not a better speculation, and it only required to be known to be valued at its proper worth. The directors had very judiciously sent out two very competent men, who would do everything they possibly could for the property; but the shareholders must not be too hasty, for a property of this kind required time for development. They had not to seek for gold, but simply to work it. Supported as they were by good men on the other side the company was bound to become a success. He might mention that those who had gone over there to look after the properties had been well received, and had met with every assistance.

The CHAIRMAN asked whether shares had been applied for in the West Indies.

Mr. L. PINTO said the people over there would have been too glad to monopolise the whole of it, but it was a question of raising the capital. This was the first British enterprise of the kind in the colony, although there had been some American companies working there on a small scale.

Mr. A. M. MOIR, who is also well acquainted with Dutch Guiana, said there was wealth there unknown to Europeans. Some time ago he sent Mr. Oliver Pegler to the contiguous colony of French Guiana, and he and Mr. Jordon gave him most interesting accounts of the interior of Cayenne. In some spots they had only to take a pick and spade and dig out rich nuggets of gold. He had a nugget which weighed down twelve sovereigns, and Mr. Jordan had one which weighed down sixty sovereigns, which he found when prospecting in French Guiana, and he believed there was the same to be met with in Dutch Guiana. The gold was lying in the rivulets and creeks, and could be washed easily. When they cleared away the primeval forest the rich reef would be reached, and when machinery was erected the shareholders would receive returns they little know of. But even the alluvial soil would give good returns. He congratulated the shareholders upon being the pioneers of gold mining in Dutch Guiana.

Mr. PINTO, in reply to a question, said that as soon as everything was settled the concessions would be completed. The concessions were all perfectly secure.

Mr. W. HARRIS SAUNDERS, in reply to an observation, said there were a great number of people simply waiting for the expected telegram before sending in their applications for shares.

Mr. SCHUBERT said he had friends ready to take 500 or 600 shares as soon as they were satisfied with the telegram.

On the motion of Mr. KENSINGTON, seconded by Mr. MOIR, a vote of thanks was passed to the Chairman and directors; and the meeting broke up.

INDIAN PHŒNIX GOLD MINING COMPANY.

The first (statutory) general meeting of shareholders was held at the City Tetminus Hotel, Cannon-street, on Wednesday,

Major-General AGNEW in the chair.

Mr. A. W. RIXON (the secretary) read the notice convening the meeting.

The CHAIRMAN said the shareholders would not have been called together under ordinary circumstances before Feb. 10, in accordance with the provisions of the Companies' Act, requiring that every company shall hold a general meeting within four months after its registration, but the directors had convened it at a somewhat earlier date than was necessary in order to obtain the assent of the shareholders to the 32nd of their Articles of Association being rescinded. That article was identical with the one in the Articles of Association of the South Indian and the Indian Glenrock companies, and its object was to protect them as a body from the consequence of the fraudulent transfer of shares; but the Stock Exchange had recently determined not to give a settlement to any company whose Articles contained that provision. They, therefore, found themselves in the position which more than one company had been in, of having to ask the shareholders to rescind the Article in question, and he would presently propose a resolution with that object in view, and this was the special business they had to dispose of. The ordinary business was confined to the appointment of directors and auditor or auditors. Before proceeding, however, to consider those questions he wished as briefly as possible to tell the shareholders the present position of their affairs, and the steps which the directors had taken in the conduct of them. It would be easy enough to paint a picture that would take the eye, but he meant to confine himself to the bare details, believing that the prospects were so good as to need no words on his part to increase their intrinsic value. (Hear, hear.) The capital of the company was 150,000*l.*, of which sum 49,000*l.* had been, or would be, allotted to the vendors in shares, while the balance of 101,000*l.* had been allotted for distribution to the public. They had, in round figures, received about 96,000*l.* in cash; they had paid to the vendors of the property in cash 36,000*l.*; and they had placed 45,000*l.* on deposit at interest for three months with two London banks, and the balance it was believed would be amply sufficient for a considerable time to come for the machinery and the working expenses. They had received telegrams from Messrs. Barclay and Morgan, the Government solicitors in Madras, who were also solicitors to this company, informing them that the property as contracted to be sold to them by Mr. William Lonsdale had been transferred in the name of the company, and it was now in the absolute possession of their agents. They were expecting every day to receive a further telegram stating that the deeds conveying the property they had agreed to purchase from Messrs. Ryan were also transferred to them. The shareholders were aware that in addition to the mining rights, about which he would speak presently, they had purchased the surface rights of 230 acres of coffee under cultivation, and about 20,000 cinchona trees. They hoped to let the coffee plantation at about 6*l.* for every ton of coffee produced, and to keep the cinchona trees for their own cultivation, as it was believed that they would yield the company a considerable income when the trees were further advanced. With regard to the mining operations, he would call attention to the circular sent to the shareholders on the receipt of Mr. Grove's report. Mr. Grove came to this country with very high letters of recommendation. The directors saw him upon many occasions, and were very much impressed with his manner and appearance, and they believed him to be a man of high honour as well as great intelligence. With the permission of the shareholders, he (the Chairman) would read all the parts of Mr. Grove's report which he thought would interest the shareholders. [The Chairman then read several extracts from the report.] This seemed to him to be the report of a man whom they could rely upon to work the undertaking with a sincere wish to study the interests of his employers. Mr. Grove went to India rather sceptical with regard to gold mining in that country, and with certainly no bias the other way; and he gave the directors to understand that he would not accept the position offered to him unless he clearly saw his way to make the mine a paying concern. He had brought to bear on the preliminary proceedings great practical knowledge, having had upwards of 20 years' experience of gold mining. He (the Chairman) congratulated the shareholders on the prospects held out by Mr. Grove, and he believed that a rich future awaited them. In accordance with the Articles of Association, the whole of the directors retired, and offered themselves for re-election; and should it appear to the shareholders that their affairs were safe in the hands of the present board they might confidently rely upon the perfect candour of the directors, and that they would not buoy the shareholders up with hopes which they did not themselves entertain. (Cheers.)

Mr. WILLIAM ABBOTT said he had listened with very great attention to the full report from Mr. Grove, which the Chairman had just read, and he had only to state that it seemed to him, as it did to the board, to be the report of a man who thoroughly understood what he wrote about. He had known something of Mr. Grove, and he was also aware that that gentleman went to India in a sceptical frame of mind. Of course when a sceptical (not a prejudiced man) was convinced, it made the result of his convictions all the more valuable, and he (Mr. Abbott), therefore, heartily welcomed the report which had just been read. He would be glad to know—as the shareholders were very keen in their enquiries as to the position of the undertaking, and what the prospects were likely to result from the position they now occupied—whether the directors could inform them more definitely when Mr. Grove was likely to arrive in Australia, and when the machinery he had gone to purchase was likely to be on the ground, so that they might form some idea when the result of the work already done was likely to assume a practical shape. They must be aware that mining enterprise in connection with India was entirely new. It was only a year old, and this company was only six months old. He, as a large shareholder in this and other Indian gold mining companies, was perfectly satisfied with the progress already made. (Hear, hear.) He believed firmly that the Indian Phœnix would be one of the best, if not the best, of the three companies with which his name had been associated, and for that reason he was particularly anxious that his clients and fellow-shareholders should have every information at that meeting that it was possible for the directors to give. Shareholders in mines were a large body, and up to the present time they were a disappointed body. They had sunk their money in every kind of mining scheme possible for the ingenuity of man to create. They had spent their money in Cornwall and in Wales, in Wheal this and Wheal that, which had brought them nothing but woe. He was particularly certain that they were entering upon a new enterprise in mining which would bring them a considerable amount of profit. The Chairman touched upon one point in reference to Indian Phœnix which the shareholders did not appreciate at its full value. They had (as he stated at the Indian Glenrock meeting) collected round them a very large mining community. There was at the present moment nearly a million of money subscribed and being employed in the development of the mining enterprise in that part of the district in which their property was situated. He believed he was right in stating—and he would be glad to be contradicted if he were wrong—that they possessed upon their property the very best site for the formation of a great mining community, for several reasons—such as the possession of a good supply of water, and its being the most healthy district—and it was most probable, as Mr. Grove foreshadowed in his report, that there would be some competition for building sites upon this part of the land. This gave the property an additional value, entirely irrespective of the value of the gold mining reefs referred to in Mr. Grove's report. It might be said that he was sanguine in reference to this property. He admitted it. The Indian native bankers had hitherto held aloof from these properties; but it was generally the case that when a man has a thing under his nose he does not believe in it because he sees it too frequently, and when an enterprise was developed by people afar off these people, of course, said they "knew nothing about it." The fact was a man in Madras knew less about what was taking place a few hundred miles away from him than they did who were as many thousand miles away from the properties. These properties were about to be developed with skilful management, and with English capital, and when the time came that the Indian native bankers woke up to the fact that there is gold at their doors, and that they were out of it, a very keen competition would arise for the shares of these gold mining companies we had acquired. (Cheers.) He had very great pleasure in supporting the resolution. He regretted, however, that the solicitor of the company had been so short-sighted as to insert in the Articles of Association a clause which he should have known that the Stock Exchange would never pass. (Cheers.)

The SOLICITOR, in reply, said the South Indian and the Indian Glenrock Companies had identically the same clause, and no notice having been given to them by the Stock Exchange authorities the same clause was naturally adopted in drawing up the Articles of Association of this company.

Mr. W. ABBOTT was very pleased to have the opportunity of withdrawing the aspersion he had made, and said he mentioned the matter as he was very jealous that the interests of the shareholders should be protected. He then moved that Major-General Agnew, Colonel Thomas George Glover, R.E., Mr. L. V. Helms, and Mr. J. D. Pender, be re-elected directors of the company, and that Lieut.-General Wray, having been recommended by the board, be elected as a director. Mr. Abbott also referred to the importance of the managers of the various companies in the neighbourhood working harmoniously together, and forming a sort of committee of consultation for the protection of the interests of the shareholders. (Hear.)

Mr. A. W. DADSON seconded the motion, which, after a few remarks from Mr. HARVEY and Mr. VEARS, was adopted.

The CHAIRMAN, in reply to Mr. ABBOTT, expressed his belief that if everything went right they would be fully at work by August next. The directors were most anxious to work amicably with all their neighbours, and it would be their endeavour to do so. (Hear, hear.)

On the motion of Mr. GEORGE ALLAN, Mr. Frederick Whinney, of the firm of Messrs. Harding, Whinney, and Co., was appointed auditor.

Mr. DADSON then proposed that the number of the directors should be increased to six, the additional seat to be left vacant, to be filled up at the discretion of the board.——Mr. HARDING seconded the proposition, which was carried.

Mr. WILLIAM ABBOTT moved that the remuneration of the directors should be 1000*l.* per annum, to be divided amongst them as they should determine, with an additional 100*l.* for every 1 per cent. above 10 per cent. paid to the shareholders. (Hear, hear.)——Mr. JENNINGS seconded the proposition, which was carried.

Mr. J. RYAN, at the invitation of the CHAIRMAN, referred to the position and prospects of the property, and said he did not think it yielded to anyone of the mining properties. It was very conveniently situated for the transport of ore and materials; it had an abundant water supply, and it possessed a more than abundant supply of timber, which could easily be conserved, and yield a good income. Labour was abundant, and he believed that if the very moderate estimate of 15 dwts. of gold to the ton mentioned by Mr. Grove were obtained they would be able to pay dividends of 40 per cent. on their capital. (Cheers.)

At an extraordinary general meeting which followed the following resolution was, on the motion of the CHAIRMAN, seconded by Mr. HELMS, carried:—"That the Articles of Association of the company be altered by the omission therefrom of Article 32."

Votes of thanks were then passed to the Chairman and directors and to Mr. Ryan, and the meeting was then brought to a close.

FRONGOCH MINING COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Change-alley, on Thursday,

Mr. G. ROSS in the chair.

Mr. H. R. MOORE (the secretary) read the notice convening the meeting. The report of the directors was read, and the managers' report and statement of accounts were taken as read.

The CHAIRMAN mentioned that the directors had received proxies from 100 shareholders, representing 5740 shares, and after a few preliminary remarks said he could assure the shareholders the directors used no mere stereotyped phrase in saying that the presentation of the report gave them very considerable pleasure, for the progress made by the company during the second year of its existence had satisfied them excessively, and they hoped and trusted that it would be found to gratify the shareholders. He thought he might say it was very seldom the case that the board of a mining company were able to say that their very moderate expression of their anticipations offered for the consideration of the shareholders at one annual meeting were so very fully realised within the twelve months which followed. If they would turn to the credit side of the accounts they would find a very satisfactory fulfilment of the promises which the directors made last year. The results shown in the figures before them had not been arrived at without a very great deal of difficulty, but in consequence of the very good management of their friend Mr. Kitto, and in spite of a falling market since February last, they had managed to sell no less than 13,000*l.* worth of ore, and they had a profit on the year's operations of very nearly 3000*l.* The directors regarded this profit as very small and insignificant compared with what would have been realised if lead and blende had kept up to the prices which were being obtained in January last. Had those prices been kept up they would have had an additional profit of 1125*l.* on the sales of lead, ahd 1525*l.* on the sales of blende, making the total profit for the year 5600*l.*, which would be sufficient to pay a dividend largely in excess of the one already paid, and what might be declared at that meeting. However, to do what they had must be sufficient to prove without any further evidence that in their mine they possessed a very valuable property. The shareholders would probably remember that the mine was purchased entirely on the advice of Mr. Kitto from the Earl of Lisburne, from whom they had received much kind encouragement and help at different times. It had been said in the county by professorial authorities that they were buying a dry bal, that the rats had deserted the ship and the catchers were coming in to find it. However, they were content to buy this worn-out mine, because they knew the authority who advised them, and they had never found him wanting in judgment, and the result was before them at the meeting. During the past autumn he visited the mine, and was very much struck with all that he saw there. He was no novice in mining matters, and he had seen a good many mines in Cornwall, in Wales, in the North of England, and in foreign parts; but he had never seen a prettier or a busier scene than that which their property presented. He saw quite sufficient there to tell him that Mr. Kitto had, in his opinion, from the first to the last, considerably underrated the importance and value of their mine. The main point of it being 154 fms. deep he had not time to go to the bottom of it, but he got the underground manager to go down and pick him a sample of lead from the first point he reached at the bottom of the shaft, and in about three hours he had brought up to him one of the finest specimens of lead ore he had ever seen in his life. The blende deposits were something perfectly startling, and there was everything to justify the expectation and belief that for a long period to come the mine would pay them exceptional profits. He trusted that shareholders having a few days' holiday at any time would pay a visit to the mine. Turning to the consideration of the accounts, the Chairman went through the principal items, and in the course of his remarks said the directors had, if they had erred at all, erred on the side of caution in writing off 10 per cent. for the cost of the machinery, which was nearly new and of the best possible description. They had 1114*l.* capital still in hand, but it was felt that this was not sufficient for their requirements. The great bulk of the labour costs were for stoping and getting of lead and blende. With regard to the item of coals, that was for the coals burned in the two engines; but besides these engines they had excellent water-wheels for drawing purposes, including the third largest wheel of the kind in the United Kingdom. The small amount for damaged land spoke well for the admirable manner in which the manager carried on the development of the mine. Before declaring the interim dividend of 2*s.* per share in June last the auditor went very carefully through the whole of the accounts, and gave his certificate that they had more than sufficient profit to pay the dividend, which he hoped the shareholders found acceptable. (Hear, hear.) The items of loan account 500*l.* and bills payable 1000*l.* foreshadowed, to some extent, the reason why the directors had intimated that the margin of capital they were working with was very small. The balance at the credit of the profit and loss account was 1767*l.* 4*s.* 8*d.*, and, as the directors stated in their report that "they will leave to your consideration the advisability of distributing this balance, simply remarking that they would prefer to retain by far the larger portion of it for another six months, and will at the meeting explain their reasons for such wish." The paragraph in the report which preceded the one he had quoted, spoke of the suggested increase of capital. When the mine was first started, and all the preliminaries were discussed, it was believed that every provision had been made for crushing a certain number of tons of lead per month, and a moderate quantity of blende; but they had no idea that the blende resources would turn to be what they are, and they had had to erect machinery far in excess of the original estimate. They had also had to lay down larger floors, and make other arrangements, and this extra expenditure had crippled them to this extent, that the credit they had to go upon at times ran remarkably short—much shorter than the directors thought that the company should be. The directors had had, on their own personal responsibility, to borrow money to carry on the work of the company, and this was a state of things which should not exist in a company like their's. (Hear, hear.) They were of opinion that the profits earned were fairly divisable among the shareholders, and there was no reason why the recommendations of the directors should not be carried into effect—(hear, hear)—but they preferred that this matter should be decided by the shareholders themselves. With regard to the condition of the lead trade during the past 12 months, and the prospects for the current 12, it ought to be remembered that last year he ventured upon one or two predictions, and these had come pretty right. The statistics of the lead trade for 1880 compared very favourably with the statistics for the previous year. The imports of lead from foreign countries for 1880 were about 6980 tons less than in 1879, and it was a particularly good feature that the exports had taken a more favourable character altogether. He had ventured to predict that the Chinese, who had been buying lead in California, would sooner or later come back to this country for their supplies, and that little shot on his part was coming true, for the exports of lead from this country to China last year were 4000 tons more than in the previous year. Of this amount something like 1650 tons were exported in the latter part of the year, which showed that the trade of China was returning to its old channels. This was a very important point, because eight years ago the Chinese were our largest and best customers, but the Americans, with their natural cuteness, set to work to undersell us, and the Chinese, ever ready to buy at the lowest possible price, had taken the lead without much regard for its quality. The result was that they had found the lead would not roll, and they were coming back to our markets. Another satisfactory feature was that the exports from Greece were falling off altogether, and the r turns from Spain had been very considerably less. It looked very much as if the Spanish people took to lead mining as our riffraff take to breaking stones for a living while trade is bad, and when trade improves they go to better trades. All these facts tended to show that the current year would bring better prices for lead. Within the past two or three days there had been a decided improvement in the zinc trade. The Germans were giving from 25*s.* to 2*l.* per ton more for zinc, and it was upon the prosperity of the zinc trade that the company depended on getting good prices for their blende, and without leading them to hope for very bright things, he thought there were sufficient facts before them to lead them to infer that their prosperity in the coming year would not be less than it had been in the past. In conclusion the Chairman moved the reception and adoption of the report and accounts.——Mr. SCHOLES seconded the motion.

Mr. QUINLAN thought that after the remarks of the Chairman no one could doubt the necessity which existed for an increase of capital. The only doubt in his mind was whether the suggested increase was a sufficiently large one, and he thought that 60000*l.* would be a more advisable increase than 30000*l.* He thought the shares should be issued to the present shareholders at 3 instead of 3¼. He wished to know why it was that part of the dividend was proposed to be retained?

Mr. W. HOUGHTON thought it would not be proper or judicious to divide a profit upon the sales of ore which had not yet taken place. (Hear, hear.) With regard to the proposed increase of capital, the directors must necessarily be better able to judge of that than the shareholders; but he hoped that all the capital would not be expended, for it was absolutely necessary that they should always have some available resources in hand.

Mr. EATON supported the views expressed by Mr. Houghton.

Mr. SCHOLES said that in the event of their having no premium they must issue more shares.

The CHAIRMAN replied that that was not necessarily so. The directors merely suggested that a dividend might be paid, and they intended to leave the matter entirely in the hands of the shareholders. Their experience told them that 30000*l.* additional capital would be quite sufficient for all their purposes, and they suggested that the premium on the shares should be invested as a reserve fund, which would be available for any purpose, and would give greater confidence to the public. With respect to the unsold produce, that produce had all been raised and paid for, and full allowance had been made for the dressing charges.

Mr. KITTO said that was quite correct.

Mr. HOUGHTON: It is not actually sold.——Mr. KITTO: No; but it has been got and paid for.

Mr. HOUGHTON thought this should come into the accounts for the current half-year, and not for those of the past half, though he quite admitted that the value placed upon the ore was a very low one.

The CHAIRMAN remarked that the ore could be sent into the market in a few days, and the purchaser of the last 100 tons of blende had written offering to take double the quantity at the same price per ton as he paid for the last lot. The profit had, he considered, been fairly earned; but it was, of course, for the shareholders to decide whether it should be divided.

Mr. SCHOLES thought that as the money had been fairly earned it was fairly divisable.

Mr. BOWMAN referred to the great improvements which had been effected in the working of the mine, and said that the machinery was now in good order, and there was no necessity whatever for a large increase of capital.

In the course of some further conversation, in which Mr. Kent, Mr. Kerley, and other shareholders took part, Mr. KITTO said he had opposed the suggestion to increase the capital, as he was anxious to pay as large a percentage upon the capital as possible. However, he had withdrawn his opposition, and would leave the matter to the directors and shareholders. The dividend had, however, been fairly earned, and he thought they might safely divide 10 per cent. for the year. (Hear, hear.)

The reports and accounts were then unanimously adopted.

On the motion of Mr. SCHOLES, seconded by Mr. EATON, a dividend of 2*s.* per share was declared, payable within the next two months, an amendment proposed by Mr. HOUGHTON to the effect that the profit should be placed to the reserve having been negatived.

On the motion of the CHAIRMAN, seconded by Mr. QUINLAN, Mr. W. Bowman, the retiring director, was re-elected, and the auditor, Mr. Ainley, was re-appointed.

The CHAIRMAN then proposed "That the nominal capital of the company be increased from 25,000*l.* to 28,000*l.* by the addition thereto of the sum of 3000*l.*, divided into 1500 shares of 2*l.* each."

Mr. KERLEY seconded the motion, which was carried.

The following resolutions were also carried:—"That such shares be issued at a premium of 30*s.* per share, to be set apart as a reserve fund, such premium, with the sum of 10*s.* per share, to be paid on application. The sum of 10*s.* per share to be paid on allotment, and the balance by calls." "That such shares shall in the first instance be offered to the present shareholders, and allotted to them *pro rata* as nearly as possible."

Mr. QUINLAN moved an amendment to the effect that the premium should be 1*l.*, but it was negatived.

The meeting closed with the usual compliment.

NEW CATHEDRAL COPPER AND TIN MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices of the company, Drapers' Gardens, on Tuesday,

Mr. JAMES LABY in the chair.

Mr. E. ASHMEAD (the secretary) read the notice convening the meeting, and stated that the meeting was called before the sad accident, of which the shareholders had been informed, took place.

The CHAIRMAN said the shareholders would have heard from the notice which had been read by the secretary the objects for which the meeting had been called. They met upon a very sorrowful occasion, eight poor fellows having been drowned by an unfortunate accident, which no one could foresee. The Inspector of Mines had been over the property, and said that the sad occurrence was purely an accidental one, which no human foresight could have avoided. It was, of course, a matter of satisfaction to Capt. Davey to have this testimony. Capt. Davey thought that, irrespective of the loss of time in getting the water out of the mine, the property had increased to a very large extent, and that if it was worth 10,000*l.* before the accident it was worth 50,000*l.* now, because they had really two mines, with a very great part of the work done. They had really met to decide upon the advisability of winding-up the company voluntarily, with the view of re-constructing it upon the Cost-book Principle, which was agreed upon at the last meeting; so that if there had fortunately been no accident they would still have met to go through the business of which notice had been given.

Mr. HERITAGE was glad to hear that the accident was not owing to fault on the part of any one.

Capt. DAVEY said the possibility of an accident at that point never entered his head. The Sunday after he first came into the district to live he was speaking to Capt. Mitchell, who had been in the adjoining mine for 30 years, and who was, in fact, almost born on the sett, and he (Capt. Davey) said that they seemed to be located among a lot of old mines. Did Capt. Mitchell remember anything being done on the line of the lode upon which they were working at New Cathedral, and Capt. Mitchell said that nothing new had been done there, that the old bal had been worked south, but that nothing whatever had been done on their new lode. The lode to the south of them was 105 ft. away by measurement, and their lode having a slight underlie north, it would, as a matter of course, bring them away from that lode. The 40 fm. level was 10 fms. in advance of the 50, and they saw nothing to be concerned about at that point, and, as a matter of course, the level in which the accident took place being 10 fms. behind the end of it, they of course had less reason to suspect anything wrong. They might reasonably have expected that the other level would have taken the water. They were 60 ft. below the level, which was 60 ft. in advance of the point where the accident occurred. Capt. Davey then explained the position of the level by means of a rough plan.

Mr. WADDINGTON having remarked that everyone must, of course, deplore this accident, drew attention to report made in 1856 by Capt. Jennings, the then manager of Tresavean, in which he was surprised to find that the New Cathedral Mine contained several lodes, some of them ranging from 6 ft. to 11 ft. in width. If they went another 10 or 20 fms. they could cross-cut to the lodes indicated by Capt. Jennings. Their chances of having a productive lode were ten times greater than by confining operations to one lode as before. All the lodes were on their property, and, as Capt. Davey had said, they could easily communicate with the old mine and fork it, and then there would be no fear of any accident hereafter. They would then be able to clear up such levels as they thought proper to open to the south.

Mr. WALLWORTH asked whether there was any question as to the old mine being on their property?——Mr. WADDINGTON replied that there was not the least doubt that the old mine was on their property.

Capt. DAVEY said Capt. Jennings was the manager of the Tresavean Mine and the Cathedral, and his opinion was shared in by Capt. Dawe, the then manager of Carn Brea, and by other local authorities.

Mr. HERITAGE asked if the adit could be easily drained?——Capt. Davey said it could.

Mr. WADDINGTON, in reply to a question, said it would take about three weeks to get the water out of the mine, and until that was done the bodies could not be recovered.

The CHAIRMAN said that irrespective of the sad calamity they had now really got two mines instead of one.

Capt. DAVEY believed that the lodes referred to in the old report would all be found in the newly-discovered part of the mine.

The CHAIRMAN said the question of the advisability of turning the company into a cost-book mine was considered at the last meeting, and the committee had received the assent of the holders of 7000 out of 8400 shares.

Capt. DAVEY, in reply to a question, said they must first fork the mine and recover the bodies, and he had no doubt that they would be able to cross-cut and find copper in paying quantities.

Mr. HERITAGE then moved, "That it has been proved to the satisfaction of

this meeting that the company cannot by reason of its liabilities continue its business, and that it is advisable to wind up the same; and that the company be wound up voluntarily."

Mr. WALLWORTH seconded the motion, which was carried unanimously.

On the motion of the CHAIRMAN, seconded by Mr. WALTON, Mr. H. Waddington was appointed liquidator.

In reply to Mr. HERITAGE, the SECRETARY stated that immediately upon receipt of the telegram informing them of the calamity the committee opened a list of subscriptions and forwarded at once money down. The list was there, and he hoped the shareholders would contribute to it.

The meeting then closed.

NEW KITTY MINING COMPANY.

The four-monthly meeting of adventurers was held at the offices of the company, Walbrook, on Tuesday,

Mr. J. B. REYNOLDS in the chair.

The notice calling the meeting was read by Mr. F. J. HARVEY, the secretary.

The CHAIRMAN said: Gentlemen, when last I had the pleasure of presiding over your deliberations we had gained some knowledge of the property in our possession, and we considered that the information which had been conveyed to us was more than sufficient to justify as large an outlay as might be necessary to secure us an ample return for it. In your wisdom you gave instructions for the commencement of more extensive operations, and made the necessary financial arrangements. No time was lost in the carrying out of your wishes; but unfortunately the works have been very much retarded by weather so severe as is rarely known in England. In common with other industries the mining industry is unquestionably suffering, but the injury is so trifling as to justify its being forgotten with this passing comment. The manager (who is with us to-day) will inform you that within about two months he will have the engine at work, soon after which the shaft will be entirely cleared, when your prospects will appear to outsiders to be what you, after close investigation, believe they are at this moment. (Cheers.) It is a very rare circumstance, gentlemen, in my opinion, for capitalists to find themselves in possession of such a property on the terms on which this fell into your hands. At the same time those who speculate in mines ought never to be asked a premium for that which not only requires capital to bring it into a paying state, but which, after spending such capital, may prove to be a failure after all. Gentlemen, the one feature which I wish you to keep well in view, as far as New Kitty is concerned, is simply this: that if this mine fails, after judicious development, it will be the first which has ever failed considering its geological position and surrounding peculiarities. The balance-sheet which I hold in my hand is of the simplest possible description, At a glance you will see that we proceed on the no credit system, and thus avoid the slightest liability to a shareholder to which he is not himself a party. By this system you not only avoid the incurring of debt before you provide means to meet it, but you have the satisfaction of knowing exactly what you are about to do, and what you will have to pay for it. It contrasts favourably with the Limited Liability Act, where the liability of shareholders is not so clearly defined as they in their ignorance believe. The Act of 1869, for the better regulation of mines within the Stannaries of Devon and Cornwall, which you adopt as the basis of your constitution, is as strictly carried out by you as it possibly can be, and, therefore, I discover that you have the enjoyment of the essence of limited liability. It is fair, gentlemen, that as each shareholder will enjoy his proportionate profit on success he should bear his proportionate expense in the endeavour to arrive at prosperity; and it is also obviously fair that in the event of his not being willing to share in the outlay he should somehow or other by sale or forfeiture of his shares get separated from the company. These are amongst the leading features provided for in the Act of Parliament, and under no circumstances whatever would I for one be connected with any company of this description if such necessities were not only recognised but enforced. You are aware that the prospective value of West Kitty had much to do with the starting of this, the adjoining mine. Notwithstanding the considerations in favour of New Kitty, which are quite independent of its prosperous neighbour, I do not think that considering mining depression we should have had courage enough to commence operations had it not been for the admitted value of West Kitty. It was very clearly proved at your last meeting—the details of the proceedings of which were published—that the Wheal Kitty lode passed through West Kitty and your property as well. That being the case the progress of West Kitty will be narrowly scanned by the New Kitty proprietors, and probably there is not one mine in Cornwall—and I speak with much deliberation when I say it—which, considering its base of underground operations, has made such progress as West Kitty has done within the last eight months. The quiet demand existing for West Kitty shares without the slightest help from market operations or otherwise, and in the face of the marked silence in the papers as to its prospects, is sufficient proof for the initiated of there being something good in the immediate future. It is not too much to say that they have in West Kitty a mass of tin ground they are only just entering, and from which, notwithstanding their limited explorations, they are returning 3 tons per month by way of commencement. I might say more to enlighten you on this matter, but let that suffice. You should, however, distinctly understand that your property will probably be of as much value as its prosperous young neighbour, and, if I may be permitted from this place to give a word of encouragement and advice, I would strongly urge you to adopt the same policy which is so strictly observed in West Kitty matters. The two companies, although perfectly distinct, are entirely friendly, and the success of one is more than likely to secure the success of both. In conclusion, I am glad to say that we shall not have a very heavy strain made upon our purse this morning; 600*l.* will be ample to carry us during the next four months into an advanced position, and a small call of 2*s.* per share will exactly meet the case. The last calls have been paid, and most cheerfully responded to without an exception—(hear, hear)—and I shall be very much mistaken if with such prospects before us we shall not only be ready to invest a little more money but also that we shall be eager to do so knowing the harvest which we are so likely to reap. I must apologise, gentlemen, for having detained you so long, but I have been anxious, knowing that the proceedings of this day will be published and distributed amongst the shareholders, to put the proprietors in possession of the facts within my knowledge, and I will merely add that the visits of those interested to the offices of the company or to the manager on the mine are at all times welcome, and every information is cheerfully given. (Cheers.)

The balance-sheet, which was then read by the Chairman, showed that the receipts for the four months from Sept. 23, 1880, to Jan. 22, 1881, were as follows:—The balance from last account, 48*l.* 19*s.* 7*d.*; call made Sept. 23, 1880, (1*s.* per share on the 6000 shares of the company), 300*l.*, 1*s.* 3*d.* discount, making altogether a total of 349*l.* 0*s.* 10*d.* The expenditure for the same period was as follows:—By cost for the four months, 237*l.* 3*s.* 2*d.*; merchants' bills, 45*l.* 16*s.* 7*d.*; Duchy of Cornwall lease, 31*l.*; banker's charges (sundries), 15*s.*; balance of cash at bankers, 34*l.* 6*s.* 1*d.* At the date of the balance-sheet (Jan. 22, 1881) the balance of liabilities over assets was 64*l.* 13*s.* 7*d.*

The CHAIRMAN then formally moved that the balance-sheet and statement of assets and liabilities be received and adopted.

Mr. W. E. WARD said he had much pleasure in seconding the resolution.

The resolution was then put and carried unanimously.

The CHAIRMAN: I shall be very glad to answer any question which any shareholder may wish to put on the statement which I have read. I hope as many questions as possible will be put, as we want to elucidate information for the benefit of those who are outside.

Mr. BODDY asked why the mining costs for November and December were larger than in the two preceding months?——Capt. W. VIVIAN said it chiefly arose from the fact that they had been building a new engine-house.

Mr. JAMES asked whether the expenses of the next two months were likely to exceed those of the last two months?——Capt. VIVIAN said he thought that they would be about the same.

Mr. JAMES: Will 600*l.* of calls be sufficient to carry us on for the next four months?——Capt. VIVIAN: Yes; and will leave us in as good a position at the end of that time as we are in now.

The CHAIRMAN: In a better position in fact, as by that time we shall have drained the water and stuff out of the shaft and be nearer the tin ground which we know to exist. I may mention that Capt. Vivian has had offers from miners to take on tribute the ground which will be exposed to view when the water is out of the shaft, so that there is as good a proof as we can have that there is tin there.

Capt. VIVIAN, in reply to a shareholder, said the deepest part of the mine was the 20 below the adit.

The CHAIRMAN then read the report of Capt. Vivian as follows:—

Jan. 24.—Since the meeting held on the mine on Sept. 23 we have built the engine-house for a 36-inch cylinder engine. I expected the work would have been much further on than it is. At first the mason work was delayed owing to the wet weather, and for the last fortnight no mason work has been done on account of the frost and snow. We have about a week's work more for the masons to put on the roof of the house. The engineers will then commence to put in the engine. I hope to have the engine at work by the end of March. The engine-shaft is about 22 fms. below the adit level. When we have the water out of the mine I propose to sink the shaft to cut the Wheal Kitty and West Kitty great flat lode, which traverses the whole length of this sett. From a survey I made this lode will be cut in sinking the shaft about 10 fms. This shaft is betwixt two great cross-courses. I find that there have been 10 or 11 lodes worked on within a mile of this mine, and all have been productive between those cross-courses. The Wheal Kitty lode, however, has never been seen in the shaft. I have every reason to believe this lode will also be found rich for tin at this point. In conclusion, I beg to state there are two other lodes near our engine-shaft that have been productive at and above the adit level. These lodes will also be cut by driving short cross-cuts. We shall commence to make returns of tin as soon as the water is out of the mine, which will assist to pay the cost. I have no hesitation in saying that the prospects of New Kitty Mine are excellent, and this will be more apparent to others as we progress with the work in hand and that which is contemplated.—WM. VIVIAN.

The CHAIRMAN said it was at present a question whether the tin ground, to which he alluded in his opening remarks, was not a continuation of the Wheal Kitty lode. Upon this point Capt. Vivian was not in a position at the present time to give any definite information.

Mr. JAMES asked how long it would take to sink the shaft to the 10 fm. level referred to in Capt. Vivian's report?——Capt. VIVIAN: About six months.

Mr. JAMES: You will sink it by hand labour?——Capt. VIVIAN: Yes.

Mr. JAMES: What would be the expense per fathom?——Capt. VIVIAN: Judging from the ground the cost would be about 20*l.* per fathom. I think in about six months from the time the water is out we shall get the Wheal Kitty lode.

Mr. JAMES said he was happy to see that tin to-day was 89*l.* per ton, with strong buyers. Yesterday it was 88*l.*, so there had been a rise of 1*l.* per ton. He might mention that he was also a shareholder in Wheal Kitty, and Capt. Teague had informed him that in that mine in the 154, driving west into West Kitty, the lode had much improved during the past month. (Hear, hear.)

The CHAIRMAN said that was important news for West Kitty.

Mr. JAMES asked whether there was any difficulty with the water in West Kitty?——Capt. VIVIAN said the water was easy, and could be pumped out without difficulty by the present engine.

Mr. JAMES said he knew the district well, and it seemed to him they had in this mine the great flat lode which had proved the source of such immense wealth in some of the adjoining mines. If that was the case it was a most important feature. Wheal Kitty had made close upon 40,000*l.* profit, and he believed some of the Wheal Kitty ends were up to West Kitty boundary.

The CHAIRMAN: That is so; they cannot go any further.

Capt. VIVIAN said there was no doubt that at the present time the flat lodes in the district were turning out better than the perpendicular lodes. The flat lode was first discovered in Wheal Kitty, and gave immense profit. Now it had been found rich in West Kitty, and there was every reason to believe that it would be found as rich in New Kitty as in West Kitty or Wheal Kitty. This celebrated flat lode traverses the St. Agnes district the same as another celebrated flat lode—South Frances—traverses the West Basset district. The notoriety of these lodes is not to be wondered at, seeing what they have done.

The CHAIRMAN said the shareholders should be made aware of the important fact that a large proportion of the profits of Wheal Kitty had been extracted from shallow levels, and it would be interesting if Capt. Vivian could give an opinion as to whether the lode would be met with at as shallow a depth as in Wheal Kitty or West Kitty.

Capt. VIVIAN said that Wheal Kitty got the lode in about 30 fms. under the adit. In West Kitty they were in a east and west line, just as the lodes are, so they would get the lodes in New Kitty at just about the same depth as in the Wheal Kitty. He might mention that the 60 in the Wheal Kitty, which was suspended some time ago, had lately been re-started, and he heard last week that they had got a good lode in that 60 fm. level again, and that the 60 came on to New Kitty. As they went west they would have 150 fms. on the course of the lode, taking the underlie as in West Kitty and Wheal Kitty, and he need not tell them that to sink that distance on the course of the lode was more than any of them would live to see.

The CHAIRMAN said there was no longer any doubt about New Kitty being a very valuable property; indeed, if no other evidence existed it would be proved by the fact that many persons were anxious to get the sett. Perhaps the shareholders would like to hear from Capt. Vivian a little more about the cross-course which went across New Kitty sett.

Capt. VIVIAN said that the two cross-courses went across the district, and came out in the sea cliff. The shaft on New Kitty was between those two cross-courses. Between the cross-courses 10 or 11 lodes had been worked within a mile, and all had been productive, and he had no reason to doubt that they would be found equally rich in New Kitty. As he had said, the great flat lode had been got in Wheal Kitty and followed up to New Kitty, which induced him to recommend Mr. Reynolds to take it up and go on with it. (Cheers)

Mr. G. M. BODDY: How do you know the Wheal Kitty lode is in New Kitty?

Capt. WM. VIVIAN: The lode in Wheal Kitty is about 14 or 15 degrees to the south of west.

The CHAIRMAN: There is one thing very clear; if it happens that this is not the Wheal Kitty lode that they have cut in the New Kitty shaft by a cross-cut it is all the better for this company—we shall have two lodes instead of one, so any way it will be good for New Kitty.

Capt. VIVIAN: We are sure to be right anyhow.

Mr. JAMES: I would rather for it not to have been cut than to have been cut.——The CHAIRMAN: There is something very good in the 12 in New Kitty: that is clear from what the old workers say.——Mr. JAMES: What size engine are you putting up?——Capt. VIVIAN: A 36-inch cylinder.

Mr. JAMES: You expect to get it in the engine-house in about six weeks?

Capt. VIVIAN: In about six or eight weeks.

The CHAIRMAN: If we liked to put down our assets by way of machinery, &c., we could make the balance-sheet look a great deal better. We never put down such assets. The fact is we have got an excellent property. We shall all feel it when our shares ars at 4*l.* at 5*l.* each. You will see there will be a great stir in West Kitty, and that is sure to create a great stir in New Kitty. There will be a run on these mines.

The CHAIRMAN: You cannot get any of that western ground now can you, Capt. Vivian?——Capt. VIVIAN: No; it is all taken up. It is a valley between the Wheal Kitty and West Kitty Mines with an immense hill each side. It was said that the tin did not make to the west of this valley, but since we have cut it in the West Kitty Mine everybody is beginning to wake up, and every bit of ground to the west is being applied for.

The CHAIRMAN: Gentlemen, if you have all the information that you wish to have I will now move the following resolution:—"That for carrying on the operations of the mine during the next four months a call of 2*s.* per share on the shares of this company be and is hereby declared, payable to the company's bankers, Messrs. Williams, Williams, and Grylls, Truro, on or before Thursday, February 10, 1881."

Mr. H. W. BODDY seconded, and it was carried unanimously.

Mr. JAMES moved, Mr. H. W. BODDY seconded, and it was carried unanimously—"That the committee be and are hereby thanked for their successful endeavours to promote the company's interests, and that the following gentlemen do constitute the committee during the ensuing four months:—Mr. Alderman Bowman, Mr. Samuel Telford Dutton, Mr. John Burall Reynolds, and the officers of the mine."

The CHAIRMAN stated that shareholders could at all times during office hours obtain whatever information they might desire about the mine, and that the more they knew the more they would be satisfied. He was very much obliged to them for their attendance that day.

Mr. JAMES, in very complimentary terms, moved a vote of thanks to the Chairman for the manner in which he conducts the company's business and for his conduct in the chair that day.

Mr. W. E. WARD seconded, and it was carried unanimously.

The CHAIRMAN thanked the meeting, and added that the committee were not paid for their services, the total expense of management not exceeding 14*l.* 14*s.* per month.

SOUTH DEVON UNITED COPPER MINES.

The second annual general meeting of shareholders was held at the offices of the company, Austinfriars, on Wednesday,

Mr. HENRY MARTIN (the chairman) presiding.

Mr. F. R. A. FRANKLYN (the secretary) read the notice calling the meeting, the directors' report, the report of Capt. Hooper, and the accounts.

The CHAIRMAN said: Gentlemen, before proposing the adoption of the report and accounts which you have just heard read, I will endeavour to lay before you as much as I can, and as plainly as I can, what has been done from the time of the last meeting to the present time. You are aware that at the time of the last meeting we were then laying out a considerable amount of work, which has now been completed. That work consisted of a large amount of machinery being put on the ground, and many new buildings; in fact, the whole of the thing has been remodelled and completed in a satisfactory and substantial manner. There have been, of course, many things necessary to be done which we were not quite prepared for, and which has created some expense. It is all new machinery, and new also to the parties who have to work it, and it is now not only beginning to be understood, but the prejudice existing towards it is beginning to die away. In erecting the new machinery we had to contend with a difficult class of ores; the consequence was we had many alterations to make which has created expenses which we now hope and believe are at an end. We have brought the water a long distance in launders, we have erected a new water-wheel, jiggers, and counthouse, and in fact, new everything, which makes our expenditure appear large and increased our capital account. But at the end of December we did not owe, I believe I am safe in saying, a single penny. I need not tell you it has been a source of great anxiety and constant vigilance on the part of the directors in carrying all these things out. They have had to contend with very many difficulties. These difficulties have been overcome, and we are now, I am happy to say, in a fair way of doing well. Not only on the surface has a large sum of money been expended since we last met, 16 months ago, but also underground. The mines when we took them were flooded with water almost up to the surface, and had been for some time; the consequence was that when we unwatered the levels we found many of the workings sadly injured, and took longer to put in order than we anticipated, and produced a much larger production in the way of timber than we anticipated. But that has now been all done. It is a thing which we shall not want to do again. The consequence of that is that we can now we hope go on in a more satisfactory manner. We are perfectly satisfied with the machinery as it stands. There has been a great deal said about it, and a great deal of opposition, simply because it is new machinery. But all the machinery will answer the purpose, and do what we want it to do, and turn out all we wish and desire. I am satisfied, and not only myself but others who have seen it, and our engineer, Mr. Matthews, has expressed the same opinion. There is no mistake about the machinery—it is as good as it can be.——Mr. MOSES BAWDEN: No doubt about that.

The CHAIRMAN: Therefore, I think I may say I am sure we have done with the expense of erecting the necessary machinery, and I am also sure that we shall go on improving our position daily, at least I hope so, and I see no reason on earth why we should not. (Cheers.) I say with the greatest possible confidence, and without fear of contradiction, that we have a good property, second to none that has ever been seen in the mining districts of Devonshire.

Mr. PETER WATSON: Not excepting Devon Great Consols. (A laugh.)

The CHAIRMAN: Well, I will not allude o that; it may be so. But we have in South Devon United a really good and substantial property, and having said that I need not do more than refer you to Capt. Hooper's report. And in referring you to that report I will say this of Capt. Hooper, from long experience and constant vigilance and watching over him, that a more honest, straightforward, and honourable man never existed and does not exist in this day in the mining world. (Hear, hear.) Therefore any report which Capt. Hooper may make take it for its full value. If Capt. Hooper errs at all it is on the side of caution. I have always found, in all Capt. Hooper's reports that if he errs at all it is on the side of caution. I have complained to him, and he has said—"Mr. Martin, I cannot report anything else, and I will not report anything else for any man." Therefore take his reportat its proper value. If one-half of the mines in the kingdom—what I am going to say is a fact which cannot be denied—could only show in their whole ground what we can show in one level they would say—"We have a splendid mine," and so they would have. (Cheers.) Then, again, with respect to our hauling power, named in Capt. Hooper's report, we have never concealed from the shareholders that it has been our weak point. The directors had looked that matter steadily in the face, but they have never cared to take upon themselves the liability of sinking a fresh shaft, and developing the mine, or rather, I should say, bringing the stuff to surface (for the stuff is there), until they were sure that they had a good mine. And I think you must give them credit for doing that; because if we had gone to the expense of sinking a new shaft without first proving the mine, and ascertaining that there was stuff below to bring up, you would have blamed us very much, and we should have been open to blame. (Hear, hear.) But we have gone on trying the eastern ground, not touching the western ground; but simply went on pushing ahead the eastern portion of our workings to prove that we had a mine worthy of a new shaft, and worthy of further exploration. That has been proved now beyond doubt; and I may tell you now that Mr. Henderson, of Truro, has been down and dialled the mine, and laid out the place for the new shaft, and we intend to push on with that with all possible speed and dispatch. (Cheers.) Ore we have in plenty, but means of drawing it we have not; but you must not charge the directors of the present company with the fault of not having sufficient hauling power, for the old company, when they erected the pumping engine, put down the pitwork and took up half the present shaft, leaving us only one dry skip-road, and with one small drawing-wheel we have done, I consider, wonders. We have during the last two months—we have not been working before; the work we did before was nothing—sent up 450 tons of ore fit for market, coming up by the single skip-road In addition, you must understand that a very large quantity more must have been drawn to surface. Therefore, that will show you that we are not idle. When we get the new shaft down we anticipate to show you such results as will astonish you. (Cheers.) There cannot be a doubt that we have a splendid property; it wants developing, and we have developed it as rapidly as we can, but you cannot expect that we shall do it in a day or a week. Those who were present at the formation of the company will remember the words I said: I said, when you have laughed and said we were going to pay dividends in six months, "Do not you believe anything of the sort; if you do it within two years 'you will do well," and my words are true, and no greater pushing on could have done more. (Hear. hear.) Having said so much with respect to the property, I will go on to say that we have succeeded in appointing, or rather inducing, our friend, Mr. Peter Watson, to join us. (Loud cheers.) Gentlemen, when that took place I looked upon our success as certain, and not only looked upon it as certain, but also upon the true value of the property. When I first saw Mr. Watson in reference to this property he said to me—"Well, what do you want?" I was very humble, for I felt that I was in the presence of a man who knew a great deal more, and was a great deal bigger than I was. I said—"I do not know what I want;" but after a little while I summoned up courage to lay before him what I wanted, and what I proposed. He said to me; "Mr. Martin, I do not undertake anything from hearsay; I must go down and examine the property for myself." I induced him to come down and examine the property, and I believe I am right in saying that he went away thoroughly satisfied. The result was that he agreed to become connected with the company, and not only did he agree to become connected with the company, and undertake the London management—the only thing I could offer him at the time—but he also bought 3300 shares at 1*l.* each, being the par price, and I do not think you want any better proof than that of the confidence which he has in the property. (Loud cheers.) We all know Mr. Peter Watson's honesty, integrity, and energy, and I look forward with a great deal of confidence to the future results of this property. That it will be good there cannot be a doubt. I have never doubted it myself, and I believe no one else has. We all hold very laorgely in this undertaking. I have never sold a single share. We all hold, and hold firmly, and I believe we shall do as well as any British mine. (Cheers.) I might tell you also that we have here sitting at the bottom of the table as purser our friend Mr. Moses Bawden, and with two such men as Mr. Peter Watson and Mr. Bawden we must do well. Mr. Bawden is ever watchful and on the look out. He really looks after the accounts, and studies every penny which is expended, and with such poor assistance as the directors can give we do not fear the success of the mine. It will be a success, and a great success, I am sure. (Hear, hear.) Now, in reference to the delay in holding this meeting. The delay in holding the meeting was not because the directors had anything to fear or anything to withhold from the shareholders, as the accounts will show you, but it simply arose from this fact—that just at the time of the annual meeting being due we were in negociation with Mr. Peter Watson, and a change of office took place. The result was that it threw us out a little, and we considered under the circumstances it would be better to have the accounts made up to Dec. 31, and for the future stick to that time, as most accounts are made up to that time. I am pleased that this was so, as we now come before you with accounts which cannot be gainsaid. The accounts look pretty well as they are; but I may mention that last week there was a sale of ore of 1200*l.*, for which the cash has been paid, which is not included in these accounts. (Cheers.) Still, there is a cost-sheet coming due in the middle of this month. For the future we propose having our accounts made up to Dec. 31.

Mr. TREHERNE (a director of Devon Great Consols) suggested that in future it would be better to have half-yearly meetings. (Hear, hear.)

The CHAIRMAN: That can be arranged. I do not know that I have anything more to say, having laid before you all that is possible; I will, therefore, now move the adoption of the report and accounts. (Cheers.)

Mr. PATTISON seconded the resolution, and said that with the exception of being temporarily frozen out at the mine, everything was looking as well as it possibly could. All the ends were in mineral, and there was no reason why all the hopes entertained regarding this property should not be realised; in fact, they were in course of realisation.

Mr. GREY thought it would have been better if the accounts had been circulated somewhat earlier. He also asked whether any arrangement had been made for the local manager to live on the works.

The CHAIRMAN said sufficient time had not elapsed since the making up of the accounts to circulate them; in fact, they were only in print on the previous day, but in future the accounts would be placed in the hands of the shareholders a reasonable time before the meeting. (Hear, hear.) As regarded Captain Hooper residing at the mine, that matter had been discussed by the directors and Capt. Hooper, who was now considering the subject, and had promised to send an answer in a day or two. The directors had pressed Capt. Hooper to reside on the mine. (Hear, hear.)

Mr. ROBINS said that if they sunk the shaft 20 fathoms from Picton's shaft they would have a course of ore such as no miner had ever seen in the district. They would have a lode there double the value of any in Brookwood. He had coteaned there, and had satisfied himself on that point.

The CHAIRMAN: The Picton's shaft is on the Emma portion of the sett. I believe that what Mr. Robins says is right. We are now working the eastern portion, but we shall work the western portion. We have never lost sight of it, and we intend in a short time to work it. (Hear, hear.)

Mr. PETER WATSON said: I am sure, gentlemen, you will excuse me to-day if I make a very few remarks, because I am, as it were, young in connection with this mine at the present workings to the east of the old Emma Mine; but I may say, in connection with the operations which were carried on at the old Emma Mine, that it is just a quarter of a century ago that I was asked to go underground and see the Emma Mine, of which this property is now a portion. I saw that with the exception, perhaps, of Devon Great Consols there was no finer course of ore in Devonshire than at the Emma Mine at the adit level, and 10 or 20 fms. below. I was asked to go down by Mr. Chafe, of Devonport, who drove me over, and I certainly saw some of the most magnificent courses of ore in that lode which exist in any mine in Devonshire. I believe that when the Emma Mine is worked westward we shall have a very great mine indeed. There is no doubt that throughout Cornwall from east to west in the granite formation there is a great wealth of tin and copper. In the Godolphin Hill there is the Great Wheal Vor, which has returned 4,000,000*l.* worth of tin, and the copper lodes of old Godolphin has also produced enormous quantities of copper. Then you come to Carn Brea district, the richest district for copper and tin in the world. You go east and come to Tavistock Bridge, east of which it was said that we should never find tin and copper, but that idea is now exploded. Then we come to the Camborne district, where we had enormous wealth at Kit Hill, where my family have been working for half a century. Then you go on to the great granite formation of Dartmoor Hills; to the west of the Dartmoor Range you have Devon Great Consols, and to the east of Dartmoor you have this rich South Devon United. Now, I want to draw the attention of the shareholders, present and absent, to this property as an investment. (Hear, hear.) It was started unfortunately, as nearly all these mines start, with comparatively too small capital, and consequently went on working from hand to mouth. If we had, for the purpose of working and developing the Cornish mines, the two or three millions which had been subscribed to work Indian gold mines, I contend that the former would be equally productive, and perhaps more so. (Hear, hear.) At the same time I am not going to say a word against Indian gold mines, from what I hear they are going to be productive. But at the same time there are as good fish in the sea in this country as abroad. (Cheers.) Well, gentlemen, from the knowledge I possessed of the Emma Mine, formed many years ago, I always believed there would be a good mine there, and still further to the east. But I do not forget the western portion of the mine. I say we must not overlook this. This mine might not only be worked as one mine, but you could make it into two, three, or four mines. Therefore there is a large and valuable property there. Well, gentlemen, I did not seek to come amongst you. It was furthest from my thoughts. I had so much to attend to that it was not of my seeking. I was asked to become associated with this property. There was only one thing I hesitated about, and hesitated a great deal, because I will do no man an injury and take no man's bread out of his mouth. (Hear, hear.) When I was asked to take the London management of this company I felt that, in giving my decision, I had to consider a very old friend with whom I had been associated not only in business but in arms. We defended the City of London as volunteers in arms, as members of the Hon. Artillery Corps, and we were called from our homes during the Fenian riots, and had been on guard all night and many nights. (Cheers and laughter.) The gentleman I refer to is my old friend, Mr. Battie. (Laughter.) He and I, for almost a quarter of a century, have always been the best of friends, and that was the reason why I told your Chairman, Mr. Patterson, that that was the only stumbling-block, and why I felt I should not be justified in having the company in my office. But I was pressed in connection with the matter, and I say to Mr. Battie, who is present, that I did not seek to take it from his office. (Hear, hear.) For 25 years we have been great friends, and I hope we shall continue so to the end of time. (Hear, hear.) I may say just one word with regard to the position of this property. After all liabilities are paid, and after paying the monthly cost, which is now accumulating, and after paying royalties, we shall have 2000*l.* in hand. Now, that is not a very bad account. (Cheers.) I would point out that our July and August sales were 296 tons, realising 622*l.*; in the following months of September and October they were 287 tons, realising 714*l.*; and the November and December sales were 450 tons, realising 1209*l.* (Cheers.) In other words, the sales in the last two months are nearly double the amount they were in July and August. I mentioned that the Wheal Emma was started without sufficient capital. If they had had sufficient capital years ago, and the mine had been nursed and worked in a proper way, it would be one of the largest and most productive mines in any district. It was in 1856 that the Wheal Emma was put into 4000 shares, and at that time a very large amount of capital was called up, the call being 2*s.* 6*d.* per share—(laughter); and let me tell you that in February of that year the shares went up from 1*l.* per share to 13*l.* per share, and in the month of March following they were 16*l.* per share.

Mr. ROBINS said they were more than that. He himself had sold some at 20*l.* per share, and he believed there were shares sold at 40*l.* per share.

Mr. PETER WATSON: If you work the concern manfully, as I hope and believe you will do, I believe you will have one of the best mines in the western part of Devonshire. (Cheers.) It only requires determination and a long pull, a strong pull, and a pull altogether. And let me say this, that when shareholders do invest in mines, whether in this or any other, do not let them buy to-day and sell to-morrow, simply because they can get a profit. I may say that in all the cases which come before me the men who make most money are those who, when they get into a good district and a good mine, stick to it. Those are the people who get the best reward. (Loud cheers.)

The CHAIRMAN said that the mine was taken from Mr. Battie's office from no disrespect to that gentleman, but the mine had developed into a very large concern, and it was felt to need the supervision of a practical man like Mr. Peter Watson. He believed that, managed by Mr. Peter Watson, the shareholders would receive their reward in the shape of handsome dividends. (Cheers.)

The resolution for the adoption of the report and accounts was then put and carried unanimously.

On the motion of Mr. MITCHISON, seconded by Mr. BATTIE, Mr. S. Patterson was re-elected a director.

On the motion of the CHAIRMAN, seconded by Mr. PATTERSON, Mr. Hobson was elected a director.

The CHAIRMAN said he had the very great pleasure in proposing that Mr. Peter Watson be elected a director. —— Mr. TREHERNE: I have very great pleasure in seconding that. I have had the pleasure of being associated with my kind and good friend Mr. Watson for some years, and knowing his ability (which is known to all in this room), I am sure the result will be satisfactory to this company. I have great pleasure in seconding that. (Loud cheers.)

Mr. PETER WATSON, in acknowledging his election, reiterated his belief in the excellent future of this mine. He mentioned that the attention of the board was at present directed to the safety of the mine in the event of a sudden thaw succeeding the recent severe frost, and said he had given instructions to the managers of all the mines with which he was associated to exercise the utmost precaution to secure the same object. (Cheers.)

On the motion of Mr. MOSES BAWDEN, seconded by Mr. HOBSON, Messrs. J. F. Lovery were re-elected auditors, with a remuneration of five guineas.

The CHAIRMAN said the shareholders would be pleased to know that the board intend appointing Mr. Peter Watson as managing director. (Cheers.)

Mr. MOSES BAWDEN, by the aid of a plan, explained the position of the workings; the present company started the present levels, and after driving 25 or 30 fms. met with a slide, which threw the lode a little, but they soon came on the ore again, and they would see by the plan the stopes that were working. The whole driving had been in a continous course of ore. There was a course of ore in each of the levels driving east. There was a very long distance from that point to the Brook engine-shaft. Mr. Bawden went on to give further important details, which are difficult to convey without the aid of a plan, but he went on to express his belief that the mine will turn out one of the most prosperous in the district. There were thousands of tons of ore in reserve—probably 30,000*l.* worth.

A vote of thanks to the Chairman and directors closed the proceedings.

CARON LEAD MINING COMPANY.

The annual general meeting of shareholders was held at the company's offices, Change-alley, on Monday,

Mr. W. BOWMAN in the chair.

The SECRETARY having read the notice convening the meeting the report and accounts were taken as read.

The CHAIRMAN said: The accounts in your hands show that our funds are low, and the report by Messrs. Kitto, if you read it carefully, tells you that our mine is now looking better than it has done for a long time. In our progress during the last year we have had much to discourage us, but we have kept steadily on, and the result is good and satisfactory. In our mine small returns will give us good profits; even 20 tons per month, sold at a fair price, would show a satisfactory result. He was very hopeful from the recent improvement in the lode that prosperous days were in store for the shareholders, and he very strongly recommended them to strengthen the hands of the directors and take up the balance of unallotted shares. If this were done he was very strongly of opinion that at their next meeting twelve months hence a very much improved position of affairs would be seen, and probably the next level would disclose what they all so much desired to see—a rich course of ore. The directors were ready to do their share fowards the new capital, and he felt sure that the shareholders would all gladly do their part. He should like to know if Mr. Kitto had any recent news from the mine?

Mr. KITTO said that the bottom of the mine had very much improved, and that the lode in the 34 was now looking better than he had ever seen it, the improvement had been very gradual for the last three months; he could not, of course, guarantee further improvements, but so much had been gained in the last three months that he most fully endorse the Chairman's advice, that the unallotted shares should be taken up, the further outlay would be so moderate and the future appeared so fair, that hesitation would be folly.

A SHAREHOLDER asked if the lode still showed lead?——Mr. KITTO: Yes, and we have also a small parcel of dressed lead on hand. Lately, I put some men at work on a kindly place in the lode in the 10. I am very hopeful of the success of the mine. 1000*l.* or so, carefully spent, may, and probably will, do a very great deal for us.

Mr. DAVEY asked: What profitable mines are situated near to our property?——Mr. KITTO said: The Esgair Mwyn, Lisburne, Frongoch, Grogwinion, and the Llanver Mines, all of which had, in days gone by, been very profitable, and most of them still were making very large returns and paying well. They are all on parallel lodes, running north and south of the Caron property.

A SHAREHOLDER asked if the Caron Company's lode resembled the lodes in these mines.——Mr. KITTO: Yes; its general character is the same.

The CHAIRMAN having then put the resolution, "That the accounts and report be received and adopted," which was unanimously received, then proposed the following resolution:—"That the shareholders be invited to subscribe for the 982 unallotted shares, and that the directors be authorised to sell the remaining forfeited shares to the subscribers, at such price and upon such terms as they may decide upon, as an inducement to the shareholders to subscribe for the whole or part of the unallotted shares," which having been seconded by Mr. KERLY,

The CHAIRMAN put it to the meeting, and declared it to be carried unanimously, and further said that every expense and cost of management had been cut down and reduced to the lowest; directors, secretary, office rent, managers, foremen, and even the miners had all been pruned down as close as they could go. They were working upon the most economical scale, and if a little more ready capital were provided he felt every confidence that good results would be quickly obtained. They had paid everybody, and the mine was free from debt.

The retiring director and auditor having been re-elected, a vote of thanks to the Chairman closed the proceedings.

WYNAAD PERSEVERANCE GOLD MINING COMPANY.—At an extraordinary general meeting of shareholders, held yesterday, Mr. A. Hall in the chair, the resolutions passed at the meeting on the 10th of January, with the object of preventing the company being imposed upon by fraud in the transfer of shares, were unanimously confirmed.

WHEAL GRENVILLE.—At the general meeting on Tuesday (Mr. R. W. Goold in the chair), the agent's report and statement of accounts were adopted, and a dividend of 2s. 6d. per share was declared, leaving about 750*l.* to be carried forward. The Chairman congratulated the shareholders on the improved position of their affairs, and on the very satisfactory profit made during the four months. He also reviewed at some length the history of the company from the time that it has been under the present management. A sum of 10*l.* was voted to the committee for their services during the current year, they having declined to accept any remuneration for their past five years' work.

WEST SETON.—At the meeting on Jan. 21 (Mr. T. Pryor in the chair) the accounts showed a debit balance of 2653*l.* A call of 1*l.* per share was made. The Chairman said all the labour costs paid were charged in the accounts, and bills to the end of November. The sum of 43*l.* was also charged for bankers' interest for six months, and this, considering the magnitude of West Seton, was a comparatively small item. It would be remembered that at the last meeting they took credit for tin at 50*l.* a ton, but he was pleased to say it had since been sold at a much better price. Their returns were less than in the previous four months, but this, Capt. Rutter had explained, was due to unforeseen accidents, and not through any depreciation in the intrinsic value of the property. The report of the manager he considered the best they had had presented to them at West Seton for a considerable time, and he looked forward at the next meeting to being able to produce a much more satisfactory financial statement. The sum of 5*l.* 5s. was voted towards the fund for opposing the application for the extension of the dynamite patent. Mr. Rule affirmed, in contradiction to the statement made by the agent of the dynamite compahy that they only made a dividend of 5 per cent., that he purchased 10 tons of dynamise from the company some time ago, and was allowed 15 per cent. for cash. The Chairman pointed out that Mr. Pendarves Vivian, M.P., had confirmed the statement he made at Wheal Peevor, that the company had profits at the rate of 50 per cent.

SOUTH INDIAN GOLD MINING COMPANY.

At the extraordinary general meeting on Tuesday it will be proposed to confirm the resolutions adopting an agreement made on Jan. 22 between the company and the trustee of a company about to be formed for the sale of the interest of the South Indian Company in the estates of Athikanu and Limerick, for the sum of 46,000*l.*, to be paid for either by 46,000 fully paid-up shares of 1*l.* each in the new company, or by 16,000*l.* in cash and 30,000*l.* in 30,000 fully paid-up shares in such new company, at the option of the shareholders, to be expressed at such meeting. The directors' report states that the shareholders are no doubt aware that the company possess the Caroline, Adeline, Yellerman, Bittusal, Athikanu, and Limerick estates. The company's operations have hitherto been conducted on Caroline, Adeline, and Biteusal, and on the Mango Tree Range two massive reefs have been proved by five levels. At Bittusal, on the eastern side, two levels have been commenced, at a distance of a mile and a quarter from the first level opened, to prove a reef which is supposed to be one of those intersected in the other property. The directors' attention has also been given to the Athikanu and the Limerick estates, which are situate at a distance of about three miles from Caroline and Adeline. In Athikanu a fine reef has been found and proved, and Mr. Harvey and Captain Gifford both testify to its auriferous character. The stream that flows through the estate is somewhat sluggish, and it is feared that sufficient power cannot always be relied on for driving, either by water wheels or turbines. There is also a want of good timber.

The directors also report that negociations are in progress for the purchase for the sum of 90,000 rs. of all the surface rights, including the coffee plantations, buildings, stock, &c., by which claims for damages will be avoided and other advantages secured, and on this purchase being completed the new company will contribute towards the sum named 4000*l.* in respect of the surface rights of the Athikanu and Limerick properties. The directors believe that, in submitting this provisional arrangement to the shareholders, they ought to point out distinctly that, after receiving back in cash and shares for a portion of the property, the full amount the entire properties cost this company, the company will retain free of cost the valuable estates of Caroline, Adeline, Yellerman, and Bittusal. The directors have no doubt the shareholders will, before coming to a decision, have regard to the possibility of higher prices per acre being reached as soon as returns on their investments have commenced, and as the policy of now parting with a moiety of the property before its real vaque has been ascertained, is one on which there may be differences of opinion, the directors desire that the question may have full discussion without its being prejudiced by any views they may entertain. It will not be forgotten that the estates retained have been thoroughly proved, and have in depth been found auriferous, and that their extent is ample to justify the belief that they are not likely to be exhausted for many years.

[For remainder of Meetings, see to-day's Journal.]

THE PLACERVILLE GOLD QUARTZ COMPANY (LIMITED).

The directors of the above company have issued the following circular as to the prospects of the mine, accompanied by a letter from the general manager, Mr. Thomas Price, giving particulars of the recent valuable discovery at 600 ft. from surface:—

This mine was purchased by a private company three years ago. Since that time they have been occupied principally in development. When the development had been carried out sufficiently to prove the mine, a 20-stamp mill was erected with all the newest improvements. The following are the monthly returns as per published telegrams:—

1880.	Tons crushed.	Yield.
March	450	$4350
April	700	7300
May	650	5640
June	700	6500
July	700	4900
August	500	3800
September	400	2700
October	600	2000
November	600	3600
December	500	3600

The cost of milling and mining the ore averages 86½ per ton. In the month of July a horse of slate was encountered in the stopes between the 400 and 500 ft. levels, and as the whole vein was crushed without selection the yield per ton increased as shown above. Mr. James E. Bowe, a director, who is at present in California, reports that this disturbance is now disappearing, and this statement is confirmed by the return for the month of December, and by the richness and size of the vein in the winze, 20 ft. below the 500 ft. level. Mr. Bowe considers that the rich ore in the winze, in which the vein is 13 ft. wide, gives assurance of a very large and rich ore body below the 500 ft. level. Samples of the ore from the new vein and from the winze have been assayed by Messrs. Johnson, Matthey, and Co., with the following results:—

CERTIFICATE OF ASSAY.

Mark of sample.
New vein, weight 4¼ lbs.
Produce of gold ..... 52·5 ozs. per ton of 20 cwts. of quartz.
" silver ..... 9·0 " " "
No. 1 from winze, weight 3 lbs. 14 ozs.
Produce of gold ..... 226·6 ozs. per ton of 20 cwts. of quartz
" silver ..... 41·5 " " "

As the most successful quartz mines in California have yielded their best results at a greater depth than had been attained in this mine, the general manager, while crushing ore from the upper levels, continued to sink the shaft, and in the latter part of December, at the depth of 612 ft., a new vein, rich in gold, was intersected, the particulars regarding which are fully set forth in the letter of the general manager, Mr. Thomas Price, of San Francisco, a copy of which is subjoined. The discovery of the new or west vein, so rich in gold, at the depth of 612 ft., combined with the fact that the local disturbance of the main vein hitherto worked is disappearing, and the results of the large quantity of ore already crushed, justify the directors in believing that the enterprise is now beyond the usual mining risks, and that there exists in the mine an ore body indefinitely large, and of a quality which will yield a good profit on the working, and handsome dividends on the moderate capital of the company. The cost of erecting the mill and hoisting works, tramway, &c., the sinking of the shaft, and the unexpected disturbance of the vein, has involved an over expenditure of about 8000*l.*, to meet which, and to continue the sinking of the shaft, the directors have resolved to issue, at a premium of 2s. 6d per share, the balance of 4365 shares (2*l.* each) which were originally reserved to meet any unforeseen contingencies, and to allot them according to priority of application. The total capital will then amount to 60,000*l.* Applications for shares to be made on the enclosed form, accompanied by a deposit of 10s. per share—the balance, 1*l.* 12s. 6d., to be paid within one month from date of allotment.

Extract from letter from Mr. T. Price, of San Francisco, manager for the company in California. San Francisco, Dec. 24, 1880

DEAR SIR,—On my return from Placerville on the 22nd inst. I cabled as follows:—"Shaft 612 ft., and intersected 3 ft. quartz vein; rich in gold: 90 ft. west of main vein; ore good in winze." I consider this a most important discovery, and one of great prospective value. This body of ore was first encountered at the depth of 105 ft., and was supposed to be only rich seams of quartz, similar to what we kave encountered before; but as we kept sinking seam after seam kept making their appearance (you understand that these seams have the same inclination as the main vein—about 70° to the east), until at the depth of 612 ft. they aggregated fully 5 ft. in width, that is slate and quartz, the quartz alone being fully 3 ft., as I cabled. There may be still more; this we will be able to prove by cross-cutting after we have opened up our 600 ft. level station. I am also glad to be able to inform you that the lode is very good in the winze; the vein is fully 13 ft. wide, and the indications are that the pay-shoot is lengthening again.

After being satisfied that the seams we encountered in the shaft was a permanent ore body I made a careful examination of the adit level which cuts the formation west connecting with level No. 1, and at the distance of 85 ft. west of the main vein I found the same character of quartz seams, and also containiug free gold. The seams, however, are more scattered, and not so compact as in the shaft. The adit level is not opposite the shaft; it intersects the vein 80 ft. south of the shaft, in block 4 and E. While up at Placerville this time, after this new development was known, a former shareholder in the property, in 1858, told me that they obtained some of their very best ore from a 5 ft. vein about 100 ft. west of the main vein.

Taking this into consideration, and the fact that the seams extend up to the adit level, there is every prospect that we have made a most important development. I have sent you a box of ore; two pieces marked No. 1 showing very coarse gold are from the bottom of the winze; all the other pieces are from the new discovery in the bottom of the shaft.* It will take a little time to fully develope and open up on this ore body before it can become available for extraction. Work on the 600 ft. level will be carried on as follows:—1. Open up the station, so that the cage can come down.—2. Drift north and south on the new or west vein, as I shall call it hereafter, and when the level has been extended north as far as block E. 12 cross-cut for the main vein. Driving on the west vein will be much easier than on the main vein. Mr. Thomas thinks that we can drive in one-half of the time, and at half the cost. I am satisfied myself it can be done much cheaper as well as more expeditiously, and the work shall be pressed as rapidly as possible.—THOMAS PRICE.

Assay Offices and Ore Floors, Hatton Garden, London, E.C., Jan. 25, 1881.

CERTIFICATE OF ASSAY

For the Placerville Gold Quartz Company (Limited).

We have examined the samples of quartz marked as under, and find the following to be the result:—

Mark of sample.
New vein, weight 4¼ lbs.
Produce of gold ..... 52·5 ozs. per ton of 20 cwts. of quartz
" silver ..... 9·0 " " "
No. 1 from winze, weight 3 lbs. 14 ozs.
Produce of gold ..... 226·6 ozs. per ton of 20 cwts. of quartz
" silver ..... 41·5 " " "

JOHNSON, MATTHEY, AND CO.

* JOHNSON, MATTHEY, and Co., Assayers and Melters to the Bank of England, Her Majesty's Mint, &c.

COLORADO UNITED MINING COMPANY.

The notes of conference between Mr. Fraser Rae and the hon. W. A Hamill, which took place at Georgetown in November, relative to the affairs of this company, and which were referred to at the recent meeting, being of interest to the shareholders generally are subjoined:—

I must preface these notes by stating that my expectation of a cordial welcome from Mr. Hamill has been surpassed in my actual experience. He has shown the utmost frankness in answering every question concerning the affairs of the Colorado United Mining Company, of which he is manager.

1.—Chief among the gratifying pieces of information which I received from him was the assurance that his own confidence in the intrinsic value of the company's property remained unshaken. He has demonstrated this by rejecting overtures made to him within the last two years for the disposal of all his shares. He avows that he is resolved to be no party to stock-jobbing operations, which would entail loss and disappointment upon the honest shareholder who had invested his capital in the company's shares under the belief that the property would be managed with integrity, prudence, and in a thoroughly business-like way. While Mr. Hamill has no present intention of parting with a single share he may do so hereafter; yet, even then, he would object to sell any share for less than its par value.

2.—Mr. Hamill's settled policy is to develope the mines with the special design of accumulating reserves of the ore, and bringing the company with such a financial condition that when a dividend shall be declared the rule will be for dividends to succeed each other with regularity. It is his expectation that a surplus for distribution among the shareholders will be at the command of the board by next March, and it is his hope that the amount then divisible would be at the rate of 1s. per share.

3.—The Terrible Lode and other lodes worked by or on behalf of the company now seem as promising in all respects as they have ever been, while the prospect of the mines proving lasting as well as rich increases with their development. Mr. Hamill anticipates that when the U. S. Coin Lode and other lodes now worked on tribute, and the other lodes now worked by the company, are still further opened up the resources of the company and the monthly returns will be vastly enlarged. When the engine now in process of erection at the end of the Union Tunnel shall be in operation, the cost of extracting ore will be lessened, and the development of the mines will be facilitated. This engine will cost about $3000. It is Mr. Hamill's intention on a future day to remove the concentrating mill to a spot nearer to the Union Tunnel, thereby saving, if not extinguishing, the present outlay for haulage which averages $200 per month. The mill is now in excellent order, and in charge of a skilful and thoroughly competent foreman, Mr. Carkeek: 20 tons of low grade ore can be concentrated there during ten hours. The average proceeds per ton may be fixed at $11. Mr. Hamill considers that the returns from and after November will be less than during the preceding months of this year, and that the yield will not rise to its present amount till February, 1881. This will be due to the stoppage of work in the shaft till the new engine is in position, and to the stoppage of the mill owing to lack of water. However, so soon as the turbine can again be used to drive the mill there will be a resumption of profitable work. To drive the mill by steam-power is too wasteful in Mr. Hamill's opinion.

4.—The debt due to Mr. Hamill by the company, for which he accepted promissory notes to the amount of $30,000, has now been paid, and the notes have been cancelled. Mr. Hamill generously disclaims charging the company with interest on that debt, and he informs me that it was his resolve, upon accepting these promissory notes, not to debit the company with interest on them.

5.—On the whole, the operations on the company's property are going on with perfect regularity, and in the most efficient and economical manner. At no time in the company's history have its affairs been on a more solid basis, nor has the company's prosperity ever been better assured by existing circumstances.

TOWN BUILT ON DIAMONDS.—No town in Africa can boast such rapid growth as Kimberley, the seat of Government in Griqualand West, and the headquarters of the South African diamond diggings. Eleven years ago not a hut stood where now some 16,000 people, with a trade of over two millions a year, form one of the most thriving communities on the African continent. It is now discovered, says the Colonies and India, that the town is built upon land which promises to be as productive of diamonds as the neighbouring diggings which have been the source of its wealth and the very origin of its existence. Kimberley is identical with the New Rush diamond settlement of 1870; and the thousands who flocked to the locality to secure a claim in the valuable reefs, which have been worked further and further to the east of the site of the future town, were in such a hurry to seek their fortune in the diggings that they forgot ro enquire whether the soil on which they pitched their tents or erected their log-huts was not equally diamondiferous. As the wooden shanties have given place to more substantial buildings, it has been found that Kimberley itself has been built on a diamond field, and that the west end or residential part of the town is as full of gems as the actual diggings themselves at the eastern or working end of the town. New claims are being taken up in all directions, and land which was beginning to acquire considerable value as building sites has suddenly assumed fresh importance as possibly containing some new "Star of South Africa." How many houses will be pulled down in the search for the diamonds upon which they are built it would be difficult to say. But it will be interesting to watch the future progress of a town which owes its existence and its subsequent partial destruction and removal to the same cause—the abundance of the diamonds in the midst of which it appears to have grown.

THERMAL BALANCE.—An extremely delicate instrument for the measurement of radiant energy has been devised by Prof. S. P. Langley, of the Alleghany Observatory. The apparatus is founded on the principle that if a wire conveying an electric current is heated, less electricity flows through it than before. Minute strips of rolled iron or steel, 1-32 of an inch wide, ¼ in. long, and so thin that 50 sheets laid on each other are scarcely thicker than a sheet of tissue paper, were united so as to form a prominent part of the circuit, through which a current of a powerful battery passéd to the galvanometer. Experiment proved that an almost inconceivably minute warming of a set of these strips would reduce the passage of the electricity so as to produce very large indications on the registering instrument. The instrument thus formed was from 10 to 30 times more sensitive than the most delicate thermopile; but this was almost a secondary advantage compared with its great precision and the readiness with which it is issued. The thermopile is very slow in its action. This new instrument takes up the heat and parts with it again in a single second. To show its sensitiveness, the statement was made that it would register a change in temperature of the iron trsips, just described, which did not exceed 1-50,000th part of a Fahrenheit degree.

COPPER ORES.

Sampled Jan. 5, and sold at the Royal Hotel, Truro, Jan. 20.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols	113	£1 7 6	Gunnislake (Clitters)	55	£6 7 6
ditto	98	1 7 6	South Caradon	100	£4 9 6
ditto	97	1 7 6	ditto	71	3 19 6
ditto	96	4 19 6	ditto	70	6 1 0
ditto	94	1 7 6	ditto	67	3 18 6
ditto	93	1 9 6	ditto	62	10 19 0
ditto	92	1 7 6	Levant	75	6 15 6
ditto	90	1 7 6	ditto	74	6 14 6
ditto	85	1 7 6	ditto	57	7 3 6
ditto	50	1 7 6	ditto	56	7 2 0
South Devon United	99	1 10 0	ditto	3	41 1 6
ditto	93	1 5 6	Marke Valley	92	2 5 6
ditto	84	2 19 0	ditto	50	3 7 6
ditto	62	3 15 6	ditto	38	1 13 6
ditto	46	3 5 6	ditto	20	2 17 0
ditto	40	6 13 0	Gawton	80	1 6 6
ditto	26	1 14 0	ditto	28	5 0 6
Gunnislake (Clitters)	91	6 15 6	Bedford United	92	3 7 6
ditto	85	5 13 6	Pengelly's Ore	71	1 17 0
ditto	82	5 15 6	Phœnix	35	5 13 6
ditto	72	6 0 6			

TOTAL PRODUCE.

Devon Great Con.	908	£1603 8 0	Marke Valley	200	£ 503 4 0
South Devon Uni.	450	1209 15 6	Gawton	108	246 14 0
Gunnislake (Clit.)	385	2356 17 6	Bedford United	92	310 10 0
South Caradon	370	2095 2 0	Pengelly's Ore	71	131 7 0
Levant	265	1935 11 6	Phœnix	35	198 12 6

Average standard ..... £95 6 0 | Average produce 6¼
Average price per ton £3 13 6
Quantity of ore ..... 2884 tons | Quantity of fine copper, 194 tons 8 cwts.
Amount of money £10,596 2 0
LAST SALE.—Average standard ... £ 98 7 0 | Average produce 6¼
Standard of corresponding sale last month, £ 96 16 0 | Produce, 6½

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Vivian and Sons	791½	£2718 4 3
Grenfell and Sons	309	1027 16 6
Nevill, Druce, and Co.	896½	3347 17 3
Williams, Foster, and Co.	677⅔	2755 9 0
Mason and Elkington	102	500 1 0
Charles Lambert and Co.	108	246 14 0
Total	2884	£10,596 2 0

NO SALE on Thursday last, January 27.

Copper ores for sale on Thursday next, at Tabb's Hotel, Redruth—Mines and parcels.—Mellanear 503—West Tolgus 170—East Pool 120—West Seton 85—Botallack 60—South Crofty 30—Wheal Comford and New Tresavean 22—Pendarves United 13.—Total, 1003 tons.

COPPER ORES.

Sampled Jan. 12, and sold at Swansea, Jan. 25.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce	Price.
Betts Cove	110	6⅞	£4 0 6	Mostardeira	141	7¼	£3 15 0
ditto	110	6⅞	4 0 6	ditto	24	13⅛	11 9 6
ditto	110	7	4 2 6	ditto	9	7⅜	4 2 6
ditto	100	7¼	4 14 6	Burnt Ore	115	2½	0 12 6
ditto	110	7⅝	4 14 0	Virnebrg	6	22⅝	13 7 6
Caveira Ore	89	6⅞	3 7 0	ditto	35	15½	9 0 6
ditto	89	6⅞	3 9 6	ditto	55	10¾	6 15 0
ditto	88	6⅞	3 6 0	ditto	9	7¼	3 19 6
Berehaven	72	7¼	4 18 6	Tigrony Pre.	6	15¾	10 7 6
ditto	71	7¼	4 15 0	Cronebane	3	9½	4 12 0
ditto	69	8	5 1 0	ditto	3	58¼	33 18 0

TOTAL PRODUCE.

Betts Cove Ore	530	£2281 15 0	Burnt Ore	115	£ 71 17 6
Caveira Ore	266	897 16 6	Virneberg Ore	105	803 3 0
Berehaven Ore	212	1040 6 0	Tigrony Precipt.	6	62 5 0
Mostardeira Ore	174	841 5 6	Cronebane Pre.	6	115 10 0

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Copper Miners' Company	295	£ 1,127 14 0
P. Grenfell and Sons	302	1,053 0 3
Nevill, Druce, and Co.	6	20 5 0
Vivian and Sons	58 5–6	413 9 6
Williams, Foster, and Co.	463½	1,961 2 6
Charles Lambert and Co.	66 5–6	592 17 3
Cape Copper Company	220	385 10 0
Total	1414	£ 6,113 18 6

NO SALE Febuary 8.

TOTALS AND AVERAGES.

	21 cwts.	Produce.	Price.	Per unit.	Standard
Whole sale	1414	7⅝	£4 6 6	11s. 4¾d.	£82 18 6

METALLURGY AND MINING IN RUSSIA, AND THE NEW METAL TARIFF.—No. II.

[*Concluded from last week's Journal.*]

According to a report of the Minister of Domains the collieries of the Donets present the following progress. Where facilities of transport are to be met with the out-put has largely increased during the past six years, when in other cases the works have been stationary, or have retrograded. In 1871 Donets coal did not go beyond Kursk and Kharkof on the north, and Ekaterinoslay on the west, very small quantities being sent to the Don and Volga, and the south ports, where English coal was a formidable competitor. It is now, however, conveyed as far as Tula and Moscow. It is sent to Odessa for the Russian Steam Navigation Company, to Nikolay for the Imperial Navy, and to Kief for the steamers of the Dnëpr, while at Jaqaurog and Rostof on the Don, it now superceds English coal, a result which no one would have ventured to predict six years ago. Steam has in most of the pits taken the place of hand labour in raising the coal, and the workings have been sunk deeper, so that the quality is much superior to the earthy and friable coal formerly obtained. The following table from the report of the Government Department of Mines shows the progressive development of coal mining in Russia from its commencement, 50 years ago:—

	Poods.		Poods.
1830, 1835 ...	600,000	1860	8,000,000
1840	875,000	1865	12,000,000
1845	?	1870	22,163,107
1850	3,160,000	1875	79,444,323
1855	2,500,000	1876	111,302,028

1 Pood, 36 lbs. English. 62 Poods, 1 ton English.

The question of the construction of the Siberian Railway has been on the *tapis* for the last 10 years, and it was only at the end of December, 1856, that the Imperial Council gave its sanction for constructing the Siberian Line in the direction from Nijni-Novgorod, *via* Kazan, to Ekaterinburg and Toumen. The reason of this delay was the difficulty of deciding the most profitable direction of the railway. No subject has been so widely popular in Russia as the question of the direction of the Siberian line. Some were for the northern route from Kostroma to Kineshma, and *via* Vetlauga, while others, by far the greater number, held to the old trade route from Nijni-Novgorod, *via* Kazon. It should be remarked that Kazan is a flourishing town, whose commerce yields to that of the former alone, the two capitals of Russia, and the sea-port towns, an advantage principally owing to the admirable position which renders it the point of junction between Russia in Europe and Russia in Asia. With the view at the same time of developing the metallurgical industry in the Urals, was commenced in conjunction with the main Siberian line, the so called Ural Railway. This railway is divided into three sections, the mines and works section, properly speaking from Kushva to Ekaterinburg, destined to connect the ore-bearing localities with the various works. The Perm Kushva section, the chief object of which is to establish a communication between the metallurgical works and the River Kama. The great affluant of the Volga, and by means of the Lunief branch, with the collieries of that name, and lastly, the coal traffic line proper, joining the main line at Arkhipovka. A few modifications are to be made in the technical details, and the works in connection with the construction of the Lunief branch, postponed until the result of recent researches are determined, along the northern water-shed, extending from Kushva to the Lunief and Kiezelofsky coal mines. The Ural Works and Mining Railway Company undertook the construction of the Kushva Ekaterinburg line, and to complete the whole railway from Perm to Ekaterinburg, a distance of 460 versts, which is finished. The capital employed in this undertaking was 27,000,000 roubles. The company engages to use exclusively coal for the heating of the locomotives and stationery engines, as soon as railway communication shall be established with those coal mines which the Government, owing to the quality and price of the coal, shall deem in a position to satisfy the requirements for the working of the line.

There was a question of increasing the duty on our copper. The duty on copper proposed by the representatives of Russian manufacturers was 1 rouble and 1 rouble 50 copecs per pood (8s. 3d. and 12s. 3d. per cwt.) instead of the existing duty of 60 copecs per pood (5s. per cwt.) According to the representatives of the Ural copper manufacturers in former times, when copper was an article of considerable export from Russia, the duty on copper of 60 copecs per pood afforded sufficient protection to the native producer, but that in latter years a great increase had taken place in the importation from abroad various descriptions of copper alloys, owing to which a considerable difficulty was being experienced in the sale of the Russian product. In view of the fact that Russian copper works have to pay a mining duty of from 10 to 15 per cent, while in England, from whence the foreign copper is imported, there exists no such tax. In other countries this impost is inconsiderable, it would be but bare justice to the native produce to increase the duty to the amount of the tax paid by him for the use of the Government works held on lease, 1 rouble 50 copecs per pood (8s. 3d. per cwt.) This proposal was supported also by other manufacturers, who pointed to the fact that while the Russian copper is obtained mainly from ores containing only from 1½ to 2½ per cent. of metal, the ores of the principal copper producing countries, such as Chili and other ports of America, contained from 28 to 70 per cent. of pure metal. Judging from the report of Russian experts, the cost of the production of copper differs considerably according to the locality in the Urals; thus at the Verhk Istetsky works it is from 7 roubles 21 copecs to 12 roubles per pood, from 2*l.* 19s. 9d. to 4*l.* 19s. 3d. per cwt.

Bogaslofsk works it is from 8 roubles 50 copecs to 9 roubles 50 copecs per pood, from 3*l.* 10s. 4d. to 3*l.* 18s. 8d. per cwt.

Yougo Knauf works it is from 13 roubles 71 copecs, from 5*l.* 7s. 6d. per cwt.

Sisertsky works it is from 9 roubles 65 copecs to 9 roubles 70 copecs, from 4*l.* 0s. 0d. to 4*l.* 0s. 5d. per cwt.

The average price of native copper declared by experts was 9 roubles to 9 roubles 50 copecs per pood (3*l.* 18s. 8d. per cwt.) At the Nijni fair, 11 roubles 22 copecs per pood (4*l.* 12s. 10d.), while the price at St. Petersburg reached from 32 to 36 roubles, from 13*l.* 4s. 9d. to 15*l.* 18s. per cwt. Copper obtained from the Kirghesi Steppe of Western Siberia was sold to the Ministry of Marine at 11 roubles 40 copecs per pood (4*l.* 14s. 4d.) With the discovery and working of copper mines in America and Australia the price of it has become considerably cheaper, so that Russia now imports more than she produces—the production of the Russian metal has for years remained almost stationery. Copper of excellent quality can be delivered at St. Petersburg from abroad at 11 roubles 20 copecs per pood (4*l.* 12s. 8d. per cwt.), even at low rate of exchange. Notwithstanding all these representations of the Russian manufacturers and mine proprietors, the Government saw no reason to alter the existing duty on copper, which remains at 5s. per cwt. Among the financial measures recently proposed in Russia is the abrogation of the inland tax on salt, which has long been a grevious burden to the population of the Empire, although forming no inconsiderable item of the Russian budget—the amount derived yearly from the salt tax being from 11,000,000 to 13,000,000 roubles. There is to be a reduction on the important article from 38½ copecs per pood (2s. 8d. per cwt.) to 20 copecs per pood (1s. 8d. per cwt.), which is of considerable importance to England, as large quantities of salt are shipped annually from British ports to Russia. The following account of the state of Russian salt mining and manufacture will be of some interest at the present juncture. Culinary salt is obtained in Russia in the form of rock, lake, and spring salt, the last being obtained either by bailing or the use of the refining apparatus. The rock salt beds near Fletskaya Fattchita, on the frontiers of the Kirghese Steppe, are remarkably rich, and could provide the entire empire with salt for some time to come. Since they passed into private hands the production has increased considerably, nevertheless Russia suffers periodically from the scarcity of salt, owing partly, no doubt, to much of it coming from the borders of European Russia, whence the carriage into the interior is very difficult, and partly to the variation in the lake productions, according as the summer is a hot one or otherwise. The tax on native salt being exceedingly high, 23 to 25 copecs per pood (1s. 9d. to 2s. 1d. per cwt.) foreign salt with a duty even of 38½ copecs per pood (2s. 8d. per cwt.) readily competes with it. The last return shows that in Russia there are 148 saltworks deriving salt from springs, half of which are in the Government of Perm, the original seat of the manufacture, where works which existed in the fifteenth century are still in operation. The largest works, however, are those of Solikamsk, producing a couple of million of poods (36 lbs. each) of superior salt annually, valued at from 45 to 60 copecs the pood, that is averaging about a half-penny per lb. Here the brine is pumped up by steam from the springs at from 100 to 150 feet below the surface of the ground, and emptied into large iron cauldrons fitted over a pit in which the stores are placed. The brine is boiled for six hours, and left to settle for fourteen hours, after which the salt is removed and dried for a day and a night in wooden trays. In the Government of Archangel the same system is pursued, but the salt produced is dark and of inferior quality, and valued at no more than 20 and 25 copecs per pood (1s. 8d. and 2s. 1d. per cwt.) on the spot. In Vologda there are three saltworks, likewise producing salt of an inferior description, while the Nijni salt is even worse—the original brine containing no more than 5 per cent. of saline extract—and the Slaviansk salt being equally weak. Salt of a superior quality is obtained in the Government of Astrakhan in the Yenotayef district, from the hill of Tchapatchi, which is a perfect mountain of salt, and the summit of Bogdoola is crowned by a hill composed entirely of this valuable mineral. A large quantity of salt is derived in this Government from the lakes, on the bottom of which it becomes precipitated. Eastern Siberia has four Imperial saltworks, whereas Poland can only boast of one. The total annual production of salt in Russia is estimated to amount to upwards of 25,000,000 poods, eqivalent to about 400,000 tons. Now that railway communication exists, it is thought that the great abundance of lake and rock salt will contribute to suppression of the saltworks in the interior, excepting those in Archangel and Vologda, which are situated the furthest off from the railroads. The salt mines in Siberia are worked by convicts, and at those near Irkoulsk a gang of forgers were recently discovered, who had their workshops underground in the midst of a dense forest. For two years past they had been issuing false notes in considerable quantities, and so well executed that they not only circulated readily among the peasanty, but even the banks and Government officials frequently accepted them as genuine. The forgers disposed of these notes at the rate of from two to three roubles the ten-rouble note to confederates who put them in circulation.

MINING PLANT AT THE BRUSSELS EXHIBITION—No. II.

[*Concluded from last week's Journal.*]

Mr. A. L. Taverdon, of Liége, who in 1878 at Paris had a highly interesting exhibit, showing the gallery of a mine, with his Diamond borers worked by a compressed air engine, appears in the catalogue as the exhibitor of a hand drill and a compressed air drill, but we vainly searched the mining department for these exhibits. Only two rock drills were shown in action—the Ferroux and the Dubois and François, both worked by compressed air supplied by different compressors. The Ferroux drill, so well known in connection with the St. Gothard Tunnel, was exhibited by the Compagnie Centrale de Construction, Baume, and supplied with compressed air by an appliance invented by Mr. G. Hanarte. This compressor is made portable, so that it can be easily moved about, and erected in underground workings. The piston is covered by water so as to reduce the friction to a minimum, and the compressed air is enclosed between two sheets of water, the volume of which can easily be proportioned to its initial pressure so as to obtain a suitable reheating. The water cushion completely separates the compressed air which is exerting its force from that which has already produced its dynamic effect; the joints are, therefore, hermetically tight if a small quantity of water be kept on the valve surfaces. A useful effect of 90·4 per cent. is claimed for this compressor, thus affording a utilisation underground of 80 per cent. of the power developed by the engine on the surface. The arrangement also permits of the utilisation of the waste heat from the water of condensation of the winding-engine, and the principle may be applied to underground locomotives working with compressed air. Messrs. Dubois et François, of Seraing, showed a compressor on their system, in which they do not adopt high pressures, but economise the steam as much as possible by means of condensation and high expansion. They also showed a carriage with four drills on their system, and a crab winch driven by compressed air for underground haulage. This firm has successfully applied their mechanical system of excavating rocks by means of wedges driven by their "bosseyeuse" to supersede the use of explosives in blasting. Messrs. Davey, Bickford, Watson, and Co., of Marcinelle, near Charleroi, showed their renowned miners' and submarine blasting fuse and cartridges of compressed powder, and Messrs. Muller et Cie, of Liége, their mining explosives.

The display of winding-engines was very imposing, several of them being shown in action. The most noticeable was a compound horizontal engine of 1200 indicated horse power for winding from a depth of 1000 metres (546 fms.), exhibited by the Société Marcinelle et Couillet, and intended for the Théodore Pit of the Sacré-Madame Colliery, Charleroi. The distribution of steam is effected by equilibrium valves, and is variable by the high speed governor. The pistons are 1 m. 05 in diameter, and have a stroke of 1 m. 6. Between the two drums is a pulley acted upon by a steam brake. The appliance for indicating the position of the cages in the shaft not only rings a warning bell, but also, in the event of this signal being neglected, closes the steam valve and puts on the brake. Messrs. Hanrez et Cie also showed a fine pair of 500-horse power winding-engines, with distribution by lifting valves, and automatic variable expansion on the Zimmermann system. The Société Anonyme des Produits showed a pair of horizontal winding-engines of 680-horse power. Mr. P. Colson contributed two winding-engines, one of high-pressure, with steam jacket and Meyer expansion gear, and the other a small one, simi-portable, of only 5-horse power, for small mines. Some admirable specimens of ropes, flat and round, made of steel, iron, hemp, and aloes, were exhibited under Class XL. "Cordage." Mr. J. Bandewyns, Montigny-sur-Sambre, sent part of a flat-iron rope, 900 metres long, of eight stands, showing a splice made by him after it had raised 112,000 tons for 14 months from a depth of 800 metres, the initial load borne by the splice being nearly 14 tons. Mr. Harmegnies sent a flat aloes rope, 1000 metres long, of decreasing sectional area, designed to raise 6½ tons from a depth of 900 metres. Mr. Vertongen-Goens sent a piece of round steel rope on the Cockerill system, with continuously decreasing sectional area, for raising 5 tons from a depth of 7000 metres.

The most complete illustration of the whole operation of raising coal from the pit was the working model, to 1-10th scale, sent by the Société de Trien-Kaisin, showing the pit head, with its winding-engines and ropes, two cages fitted with Libotte safety grips for sustaining them in the event of the rope breaking, and a radial bridge for distributing the coal over a large area for railway trucks or wagons stationed below. The Près de Fléron Company had fitted up a pit mouth, with landing and a three-decked cage, provided with safety apparatus, all full size, on a system that has stood the test of 12 years' practical working. Mr. Nicholas Libotte sent several samples of his well-known safetygrips applied to both timber and iron guides. Mr. Thomas showed a safety hook which is released on its reaching the pulley; and Mr. Armand another which comes into play on encountering a bar attached to the pit head. There were two models illustrating arrangements to permit of winding in the upcast shaft sent by the Amercœur Fontaine Company, both having a tower with air lock, the doors in the latter being opened automatically. Mine ventilators were naturally well represented. Mr. Harzé, Director of Mines attached to the Department of Public Works, showed drawings of the two types of ventilators bearing his name. Type A consists of a turbine of plate iron with the blades curved towards the inlet in the direction of rotation, so as to diminish the shock, and revolving inside a casing provided with several outlet channels fitted with regulating valves. In type B the turbine is replaced by a fan, revolving between the walls, and also provided with a similar outlet arrangement. Most of these ventilators revolve on a horizontal axis, but one of them has lately been put down at the Gosson-Lagasse Colliery, near Liége, with a vertical axis, in which case the divisions of the outlet become vertical, and consist of plates with angle irons at the bottom, which may be readily moved about so as to suit the speed required. Recent experiments with a 3-metre fan at the Lonette Colliery, Rétine, have given highly satisfactory results. With one revolution a second a volume of 19¼ cubic metres (680 cubic feet) is withdrawn from the mine with a vacuum equal to 1½ in. of water-gauge. There was also an arrangement of double ventilator, first exhibited by Mr. Harzé in 1876, consisting of two turbines, one drawing from the other, and thus producing more effect than the two separately. The Boubier Coal Company sent a similar arrangement, in which each fan can be driven separately if desired, Mr. Virgile Dieu, manager of the Charbonnages Réunis, also showed his system of ventilator, consisting of a fan with doubly curved blades, and the outlet taking place at three different points in the circumference. Fans on the Guibal principal were shown of a large size by the Société des Produits, and entirely in metal of small diameter by Mr. Charles Beer, of Liége, driven by his high-speed three-cylinder engine, while the Crachet and Piquery Coal Company sent drawings of one 12 metres in diameter.

The most powerful pumping-engine, not only in the Exhibition, but that has ever been constructed, was that of 1000-horse power, erected in the Machinery Department by the Société John Cockerill, and destined for the argentiferous copper mines of Mansfeldt, in Prussia. This engine, with another similar to it, will work the pumps on the Rittenger system of 0·9 metre diameter and 2 metres stroke. The engine will in ordinary working develope a force in water raised of 650-horse power, though capable on an emergency of working up to its full power of 1000 horses. The engine is compound and double acting, of high expansion and condensing. The diameters of the cylinders are 1·15 and 1·9 metre, and the strokes 3·3 metres. The working beam, which serves at the same time as counterweight, is entirely of steel, and weigns 42 tons, while the total weight of the engine proper is 410 tons, and the height 52½ ft., and by no means the least interesting features are the hydraulic arrangements for lifting the beam and also the fly-wheel shaft off their bearings for inspection and renewal of the brasses. The prototype of this monster engine was that supplied by the Cockerill Company to the Gosson-Lagasse Colliery, the directors of which exhibited the drawings; it works perfectly at 12 or 13 revolutions a minute. Drawings of a rotary pumping-engine on the Colson system, one of the best that has been erected in Belgium, were shown by the Marihaye Colliery Company, and a similar engine of small size was shown by Messrs. Libert, Walthère, et Cie, Liége. The Société des Ateliers de la Meuse also exhibited the drawings of three pumping-engines made by them—one direct-acting, with condensation, one rotary, with variable expansion, and the third rotary, on the Kley system.

Although we can devote no more space to the subject, this article by no means exhausts the splendid and varied collection of mining plant exhibited on the late Champ de Manœuvres, which was thus converted from the "arts of war to the usuages of peace," in this respect typifying the industrious and prosperous little kingdom of Belgium itself, which, formerly the battle field of Europe, has now become a centre of social progress.

THE TRANS-SAHARAN RAILWAY.—This project continues to be the prominent topic of conversation in Algeria, and many look for important results from the uniting of Algeria and Senegal with the interior of the Soudan. The commissions appointed to study the subject have been very active; the first of four missions which have been organised was confided to Mr. Paul Soleillet, who left St. Louis, in Senegal, on Feb. 16, 1880, in the hope of reaching Timbuctoo, and proceeding thence to Insallah. He was attacked and plundered on March 20, and forced to return to Senegal. The other three missions operated from Algeria. One, directed by Mr. Choisy, was charged with the exploration of two lines in the Sahara, from El-Aghouat to Biskra, and thence to Ourgla. The geographical results of these explorations are very important, and a geological map has been prepared of all the regions visited. Neither line presented any physical difficulty, or required any *travaux d'art*. The mission under Col. Flatters had for its object to penetrate the Tonareg country, with a view to ascertain whether a line of railway could pass into the Soudan by Hogar. Starting from El-Aghouat, he went to Tuggurt, and thence to Ourgla by the Oued Igharghar. He traversed the region of Sand-dunes, which extend to El-Biodh, by Ain Taiba, and discovered a road over perfectly firm ground, without a trace of shifting sand, as far as 150 miles south of El-Biodh. He penetrated as far as 26° N. lat., and obtained much valuable scientific information. In connection with Col. Flatters' mission Mr. Lebiez was sent to examine the line of country from Biskra to Setif, so as to ascertain how a railway from El-Biodh might best reach the sea. The last mission was under Mr. Pouyanne; he was charged to explore the region south-west of Algeria, but owing to the hostility of tribes on the frontier of Morocco he was unable to advance beyond Tyout. He reports that there would be no difficulty in constructing a railway at least as far as Touat.

IMPROVING STEEL.—For the production of a metal of a high character, of great strength, and of great ductibility, Mr. JOHN HALDEMAN, of New York, proposes to take steel in any convenient form, either in bars or scrap, and place the same in an ordinary heating furnace, and apply thereto a sufficient degree of heat to practically decarbonise the steel, allowing the material to cool gradually, the result being a metal of great strength and ductility, applicable to various purposes.

Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors) at their offices, 26, FLEET STREET, where all communications are requested to be addressed.—*January 29, 1881.*